

Kafka Monitoring

Why am I not seeing all Kafka metrics if I'm running a 0.8.x version of Kafka that is pre-0.8.2

A: Kafka had great metrics in 0.7x versions and then in pre-0.8.2 the metrics had a lot of issues. In short, the MBeans Kafka exposed via JMX were named in a way that made them very difficult/impossible to parse systematically. We worked with the Kafka developers to fix that in Kafka 0.8.2 (see <https://issues.apache.org/jira/browse/KAFKA-1481>). To make your Kafka Producers, Consumers, and Brokers properly monitorable, upgrade to 0.8.2.

How can I see metrics for Kafka Producers and Brokers and Consumers

A: To see metrics for Kafka Producers, Brokers, and Consumers make sure to run SPM client on all of them. Each of them has its own metrics. Kafka Brokers do not expose Producers' or Consumers' metrics, so ensure you have SPM client on all three Kafka tiers.

Can I see metrics for non-Scala/JVM Kafka Producers and Consumers

A: No, because none of them seem to expose metrics the way Kafka's own Producer and Consumer implementations expose metrics.

Metrics

Report: Producer Failed/Resend Requests

Chart: Producer Failed/Resend Requests

Metric Name | Metric Description — | — failed | resends | serialization errors |

Report: Consumer Connector

Chart: Consumer Commits

Metric Name | Metric Description — | — kafka_commits | zookeeper_commits |
| rebalance_count |

Report: Broker Requests

Chart: Requests

Metric Name | Metric Description — | — requests | local time | remote time
| request queue time | response queue time | response send time | local time |
remote time | request queue time | response queue time | response send time |

Report: Clients Producer Batch/Buffer/Compression

Chart: Batch

Metric Name	Metric Description
batch size	The average number of bytes sent per partition per-request.
batch size max	The max number of bytes sent per partition per-request.
compression rate	The average compression rate of record batches.

Chart: Buffer

	Metric De- scrip- tion
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buffer avail- able bytes	The to- tal amount of buffer mem- ory that is not be- ing used (ei- ther un- allo- cated or in the free list).
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	Metric De- scrip- tion
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buffer to- tal bytes	The max- i- mum amount of buffer mem- ory the client can use (whether or not it is cur- rently used).
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buffer pool wait ra- tio	The frac- tion of time an ap- pen- der waits for space allo- ca- tion.
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Report: Broker Topic Partition

Chart: Topic Partition Log

Metric Name | Metric Description — | — segments | size |

Chart: Topic Partition Offset Increasing

Metric Name | Metric Description — | — offset increasing |

Chart: Topic Partition Under Replicated

Metric Name | Metric Description — | — under replicated |

Report: Clients Producer Topic

Chart: Rate

Metric Name	Metric Description
byte rate	The average rate of bytes.
compression_rate	The average compression rate of records.

Chart: Record Rate

Metric De- scrip- tion
send rate The av- er- age num- ber of records sent per sec- ond.

	Metric De- scrip- tion
retry rate	The av- er- age per- second num- ber of re- tried record sends
error rate	The av- er- age per- second num- ber of record sends that re- sulted in er- rors

Report: Clients Consumer Coordinator

Chart: Rebalance

Metric Name	Metric Description
join rate	The number of group joins per second

Metric Name	Metric Description
join time avg	The average time taken for a group rejoin
join time max	The max time taken for a group rejoin
sync rate	The number of group syncs per second
sync time avg	The average time taken for a group sync
sync time max	The max time taken for a group sync

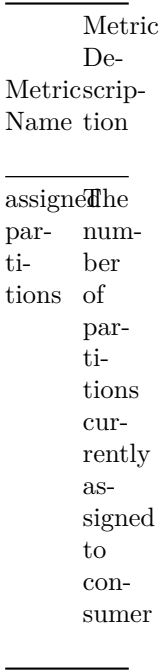
Chart: Heartbeats

Metric De- scription	
heartbeats rate	The num- ber of heart- beats per sec- ond
heartbeats re- sponse time max	The max time taken to re- ceive a re- sponse to a heart- beat re- quest

Chart: Last Heartbeat

Metric Name	Metric Description
last heartbeat	The number of seconds since the last controller heartbeat

Chart: Assigned Partitions



Report: Clients Producer Communication

Chart: IO

	Metric De- scrip- tion
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io wait ra- tio	The frac- tion of time the I/O thread spent wait- ing.
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io ra- tio	The frac- tion of time the I/O thread spent do- ing I/O
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	Metric De- scrip- tion
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io_wait_time	The average length of time the I/O thread spent waiting for a socket ready for reads or writes.
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io_time	The average length of time for I/O per select call.
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Chart: Connections

Metric Description	
connections created rate	New connections established per second in the window.
connections close rate	Closed connections per second in the window.
connections count	The current number of active connections.

Chart: Network

Metric De- scrip- tion
<div>network</div> <div>The</div> <div>av-</div> <div>er-</div> <div>age</div> <div>num-</div> <div>ber</div> <div>of</div> <div>net-</div> <div>work</div> <div>op-</div> <div>era-</div> <div>tions</div> <div>(reads</div> <div>or</div> <div>writes)</div> <div>on</div> <div>all</div> <div>con-</div> <div>nec-</div> <div>tions</div> <div>per</div> <div>sec-</div> <div>ond.</div>

Report: Clients Consumer Lag

Chart: Consumer Lag

	Metric
Metric Name	Description
records-lag-max	The maximum i-lag in terms of number of records for any partition

Report: Producer Requests

Chart: Producer Request Time

Metric Name | Metric Description — | — time |

Chart: Producer Request Size

Metric Name | Metric Description — | — requests | size |

Report: Clients Consumer Communication

Chart: Connections

	Metric De- scrip- tion
connections creation rate	New con- nec- tions es- tab- lished per sec- ond in the win- dow.
connections close rate	C onnections closed per sec- ond in the win- dow.
connections count	T otal cur- rent num- ber of ac- tive con- nec- tions.

Chart: Network

Metric De- Metricscrip- Name tion	
networkThe io av- rate er- age num- ber of net- work op- era- tions (reads or writes) on all con- nec- tions per sec- ond.	

Chart: IO

	Metric De- scrip- tion
--	---------------------------------

io wait ra- tio	The frac- tion of time the I/O thread spent wait- ing.
--------------------------	--

io ra- tio	The frac- tion of time the I/O thread spent do- ing I/O
------------------	--

	Metric De- scrip- tion
--	---------------------------------

io_wait_time	The average length of time the I/O thread spent waiting for a socket ready for reads or writes.
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io_time	The average length of time for I/O per select call.
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Report: Clients Producer Request/Records

Chart: Record Size

Metric Name	Metric Description
record size	The average record size
record size max	The maximum record size
records per request	The average number of records per request.

Chart: Requests In Flight

Metric De- scrip- tion
The in- flight num- ber of in- flight re- quests await- ing a re- sponse.

Chart: Select Rate

	Metric De- scrip- tion
select rate	Number of times the I/O layer checked for new I/O to per- form per sec- ond

Chart: Waiting Buffer Threads

Metric De- scrip- tion
waitingThe threadsnum- ber of user threads blocked wait- ing for buffer mem- ory to en- queue their records

Chart: Record Rate

	Metric De- scription
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record send rate	The average number of records sent per second.
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record retry rate	The average per-second number of re-tried record sends
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	Metric De- scrip- tion
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error rate	The av- er- age per- second num- ber of record sends that re- sulted in er- rors
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record queue time max	The max- i- mum time record batches spent in the record ac- cu- mu- la- tor.
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	Metric De- scrip- tion
record_time_avg	The av- er- age time record batches spent in the record ac- cu- mu- la- tor.
record_send_rate	The av- er- age num- ber of records sent per sec- ond.

	Metric De- scrip- tion
retry rate	The av- er- age per- second num- ber of re- tried record sends
error rate	The av- er- age per- second num- ber of record sends that re- sulted in er- rors

Report: Consumer Fetcher

Chart: Consumer Requests Time

Metric Name | Metric Description — | — requests time |

Chart: Consumer Requests Throttle Time

Metric Name | Metric Description — | — throttle time |

Chart: Consumer Requests/Responses

Metric Name | Metric Description — | — requests | responses | fetcher bytes | response bytes | fetcher bytes | response bytes |

Report: Consumer Lag

Chart: Consumer Lag

Metric Name | Metric Description — | — lag | broker earliest offset changes | Number of messages deleted by Kafka retention job broker write rate | consume rate |

Report: Broker Queues/Expires

Chart: Queues

Metric Name	Metric Description
response queue	Response Queue Size
request queue	Request Queue Size

Chart: Expires

Metric Name	Metric Description
consumer expires	Number of expired delayed consumer fetch requests
follower expires	Number of expired delayed follower fetch requests
all expires	Number of expired delayed producer requests

Report: Clients Consumer Fetch Manager

Chart: Throttle

Metric Name	Metric Description
throttle time max	The max throttle time in ms

Chart: Records

Metric Name	Metric Description
records consumed rate	The average number of records consumed per second
records per request	The average number of records per request

Chart: Requests

Metric Name	Metric Description
fetch rate	The number of fetch requests per second
fetch latency	The average time taken for a fetch request

Chart: Bytes

Metric Name	Metric Description
bytes consumed rate	The average number of bytes consumed per second
fetch size avg	The average number of bytes fetched per request

Report: Partitions

Chart: Partitions

Metric
 De-
 Metricscrip-
 Name tion

Number
 of
 par-
 ti-
 tions
 (lead
 or
 fol-
 lower
 repli-
 cas)
 on
 bro-
 ker

Metric De- scrip- tion

Number of leader repli- cas on bro- ker
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Number of un- avail- able par- ti- tions

Number of par- ti- tions with un- avail- able repli- cas
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Report: Producer Topic

Chart: Producer Topic Bytes/Messages

Metric Name	Metric Description	—	— messages	dropped messages	bytes
			dropped messages		bytes

Report: Broker ISR/Log Flush

Chart: ISR

Metric Name	Metric Description
isr expands	Number of times ISR for a partition expanded
isr shrinks	Number of times ISR for a partition shrank

Chart: Log Flush

Metric Name	Metric Description
log flushes	Rate of flushing Kafka logs to disk
log flushes time	Time of flushing Kafka logs to disk

Report: Broker Purgatory

Chart: Purgatory

Metric De- scription
Number of re- quests de- layed in the fetch pur- ga- tory

Metric De- scrip- tion	Metric De- scrip- tion
fetch de- layed re- quests size	Requests wait- ing in the fetch pur- ga- tory. This de- pends on value of fetch.wait.max.ms in the con- sumer
product de- layed re- quests	Number of re- quests de- layed in the pro- ducer pur- ga- tory

Metric Name	Description
producer-de-layed requests size	Requests waiting in the producer purgatory. This should be non-zero when acks = -1 is used in producers

Report: Broker Replica

Chart: Replica Stats

Metric Name | Metric Description — | — replica max lag | replica min fetch |

Chart: Replica Imbalance

Metric Name | Metric Description — | — preferred replica imbalance count |

Report: Clients Producer Node

Chart: Request Rate

Metric Name	Metric Description
request rate	The average number of requests sent per second.
response rate	The average number of responses received per second.
request latency	The average request latency
request latency max	The maximum request latency
request rate	The average number of requests sent per second.
response rate	The average number of responses received per second.

Chart: Request Size

Metric Name	Metric Description
request size	The average size of all requests in the window..
request size max	The maximum size of any request sent in the window.

Chart: Bytes

Metric Description
incoming bytes/second
byte read rate off socket

Metric De- scrip- tion	
outgoing byte av- erage	The average num- ber of out- go- ing bytes sent per sec- ond to servers.
incoming byte read rate off	Bytes/second read off socket

Metric De- scrip- tion
The average num- ber of out- go- ing bytes sent per sec- ond to servers.

Report: Broker Topic

Chart: Topic Bytes/Messages

Metric Name	Metric Description	—		—	messages in		bytes in		bytes out		bytes rejected		bytes in		bytes out		bytes rejected
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Chart: Topic Failed Requests

Metric Name	Metric Description	—		—	failed fetch requests		failed produce requests
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Report: Log Cleaner

Chart: Recopy

Metric Name	Metric Description	—		—	max_buffer_utilization		recopy_percent
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Chart: Buffer

Metric Name | Metric Description — | — max_buffer_utilization | max_dirty
| max_clean_time |

Report: Controllers**Chart: Active Controllers**

Metric Name	Metric Description
active controllers	Is controller active on broker

Report: Consumer Topic**Chart: Consumer Topic Fetch Queue**

Metric Name | Metric Description — | — queue size |

Chart: Consumer Topic Owned Partitions

Metric Name | Metric Description — | — owned_partitions |

Chart: Consumer Topic Bytes/Messages

Metric Name | Metric Description — | — messages | bytes |

Report: Elections**Chart: Leader Elections**

Metric Name | Metric Description — | — elections | unclean elections | elections
time |

Report: Clients Consumer Node**Chart: Bytes**

Metric Description	
incoming byte rate	Bytes/second read off socket
outgoing byte rate	The average number of outgoing bytes sent per second to servers.
incoming byte rate	Bytes/second read off socket

Metric De- scrip- tion
The average number of out- go- ing bytes sent per sec- ond to servers.

Chart: Request Rate

Metric Name	Metric Description
request rate	The average number of requests sent per second.
response rate	The average number of responses received per second.
request latency	The average request latency
request latency max	The maximum request latency
request rate	The average number of requests sent per second.
response rate	The average number of responses received per second.

Chart: Request Size

Metric Name	Metric Description
request size	The average size of all requests in the window..
request size max	The maximum size of any request sent in the window.

Metrics Kafka 0.7.2

Report: Logs

Chart: Request Rate

Metric Name | Metric Description — | — requests |

Chart: Async Requests

Metric Name | Metric Description — | — async dropped events | async events |

Chart: Request Stats

Metric Name | Metric Description — | — avg. request latency | max. request latency | requests |

Report: Broker

Chart: Socket Server Rate

Metric Name | Metric Description — | — produce requests | fetch requests | bytes read | bytes written |

Chart: Flush Rate

Metric Name | Metric Description — | — flushes |

Chart: Flush Time

Metric Name | Metric Description — | — perc. total flush | total flush | max. flush |

Chart: Socket Server Count

Metric Name | Metric Description — | — total bytes read | total bytes writtern | perc. total produce requests | total produce requests | perc. total fetch requests | total fetch requests |

Chart: Messages

Metric Name | Metric Description — | — bytes in | bytes out | messages in |

Chart: Socket Server Time

Metric Name | Metric Description — | — avg. produce request | max. produce request | avg. fetch request | max. fetch request | produce requests | fetch requests |

Chart: Flush Count

Metric Name | Metric Description — | — flushes | avg. flushes |

Chart: Failed Requests

Metric Name | Metric Description — | — failed produce requests | failed fetch requests |

Report: Logs

Chart: Segments

Metric Name | Metric Description — | — segments |

Chart: Messages

Metric Name | Metric Description — | — messages appended | logs size |

Report: Consumer

Chart: Requests

Metric Name | Metric Description — | — avg. requests latency | max. requests latency | requests |

Chart: Request Rate

Metric Name | Metric Description — | — requests | throughput |

Chart: Messages

Metric Name | Metric Description — | — messages per topic | bytes per topic |

Report: Broker Flush

Chart: Flush Time

Metric Name | Metric Description — | — perc. flush time | avg. flush time |
max. flush time |

Chart: Flush Count

Metric Name | Metric Description — | — total flushes | total flush time |

Chart: Flush Rate

Metric Name | Metric Description — | — flush rate |

Report: Broker Msgs

Chart: Messages

Metric Name | Metric Description — | — bytes in | bytes out | messages in |

Report: Consumer Topics

Chart: Messages

Metric Name | Metric Description — | — messages | bytes |

Chart: Offset

Metric Name | Metric Description — | — produced | consumed | lag |

Report: Broker Reqs

Chart: Fetch/Produce Latency

Metric Name | Metric Description — | — avg. produce latency | avg. fetch
latency | max. produce latency | max. fetch latency |

Chart: Fetch/Produce Rate

Metric Name | Metric Description — | — produce rate | fetch rate | bytes read
rate | bytes written rate |

Chart: Fetch/Produce Total

Metric Name | Metric Description — | — total produce latency | total fetch latency |

Chart: Failed Requests

Metric Name | Metric Description — | — failed produce requests | failed fetch requests |

Chart: Fetch/Produce Traffic

Metric Name | Metric Description — | — total bytes read | total bytes written | produce requests | fetch requests |

Report: Broker Topics

Chart: Failed Requests

Metric Name | Metric Description — | — failed produce requests | failed fetch requests |

Chart: Messages

Metric Name | Metric Description — | — bytes in | bytes out | messages in |