

Metrics Reference

Orderer Metrics

Prometheus

The following orderer metrics are exported for consumption by Prometheus.

Name	Type	Description
blockcutter_block_fill_duration	histogram	The time from first transaction enqueueing to
broadcast_enqueue_duration	histogram	The time to enqueue a transaction in secur
broadcast_processed_count	counter	The number of transactions processed.
broadcast_validate_duration	histogram	The time to validate a transaction in secon
cluster_comm_egress_queue_capacity	gauge	Capacity of the egress queue.
cluster_comm_egress_queue_length	gauge	Length of the egress queue.
cluster_comm_egress_queue_workers	gauge	Count of egress queue workers.
cluster_comm_egress_stream_count	gauge	Count of streams to other nodes.
cluster_comm_egress_tls_connection_count	gauge	Count of TLS connections to other nodes.
cluster_comm_ingress_stream_count	gauge	Count of streams from other nodes.
cluster_comm_msg_dropped_count	counter	Count of messages dropped.
cluster_comm_msg_send_time	histogram	The time it takes to send a message in seco
consensus_etcdraft_active_nodes	gauge	Number of active nodes in this channel.

consensus_etcdraft_cluster_size	gauge	Number of nodes in this channel.
consensus_etcdraft_committed_block_number	gauge	The block number of the latest block committed.
consensus_etcdraft_config_proposals_received	counter	The total number of proposals received for configuration.
consensus_etcdraft_data_persist_duration	histogram	The time taken for etcd/raft data to be persisted.
consensus_etcdraft_is_leader	gauge	The leadership status of the current node: 0 = not leader, 1 = leader.
consensus_etcdraft_leader_changes	counter	The number of leader changes since process started.
consensus_etcdraft_normal_proposals_received	counter	The total number of proposals received for normal data.
consensus_etcdraft_proposal_failures	counter	The number of proposal failures.
consensus_etcdraft_snapshot_block_number	gauge	The block number of the latest snapshot.
consensus_kafka_batch_size	gauge	The mean batch size in bytes sent to topics.
consensus_kafka_compression_ratio	gauge	The mean compression ratio (as percentage).
consensus_kafka_incoming_byte_rate	gauge	Bytes/second read off brokers.
consensus_kafka_last_offset_persisted	gauge	The offset specified in the block metadata.
consensus_kafka_outgoing_byte_rate	gauge	Bytes/second written to brokers.
consensus_kafka_record_send_rate	gauge	The number of records per second sent to brokers.
consensus_kafka_records_per_request	gauge	The mean number of records sent per request.
consensus_kafka_request_latency	gauge	The mean request latency in ms to brokers.
consensus_kafka_request_rate	gauge	Requests/second sent to brokers.
consensus_kafka_request_size	gauge	The mean request size in bytes to brokers.
consensus_kafka_response_rate	gauge	Requests/second sent to brokers.
consensus_kafka_response_size	gauge	The mean response size in bytes from brokers.
deliver_blocks_sent	counter	The number of blocks sent by the deliver service.
deliver_requests_completed	counter	The number of deliver requests that have been completed.
deliver_requests_received	counter	The number of deliver requests that have been received.
deliver_streams_closed	counter	The number of GRPC streams that have been closed.
deliver_streams_opened	counter	The number of GRPC streams that have been opened.

fabric_version	gauge	The active version of Fabric.
grpc_comm_conn_closed	counter	gRPC connections closed. Open minus closed.
grpc_comm_conn_opened	counter	gRPC connections opened. Open minus closed.
grpc_server_stream_messages_received	counter	The number of stream messages received.
grpc_server_stream_messages_sent	counter	The number of stream messages sent.
grpc_server_stream_request_duration	histogram	The time to complete a stream request.
grpc_server_stream_requests_completed	counter	The number of stream requests completed.
grpc_server_stream_requests_received	counter	The number of stream requests received.
grpc_server_unary_request_duration	histogram	The time to complete a unary request.
grpc_server_unary_requests_completed	counter	The number of unary requests completed.
grpc_server_unary_requests_received	counter	The number of unary requests received.
ledger_blockchain_height	gauge	Height of the chain in blocks.
ledger_blockstorage_commit_time	histogram	Time taken in seconds for committing the ledger.
logging_entries_checked	counter	Number of log entries checked against the ledger.
logging_entries_written	counter	Number of log entries that are written.

StatsD

The following orderer metrics are emitted for consumption by StatsD. The `%{variable_name}` nomenclature represents segments that vary based on context.

For example, `%{channel}` will be replaced with the name of the channel associated with the metric.

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Bucket	Type	Description
blockcutter.block_fill_duration.{channel}	histogram	The time from f
broadcast.enqueue_duration.{channel}.{type}.{status}	histogram	The time to enc
broadcast.processed_count.{channel}.{type}.{status}	counter	The number of
broadcast.validate_duration.{channel}.{type}.{status}	histogram	The time to vali
cluster.comm.egress_queue_capacity.{host}.{msg_type}.{channel}	gauge	Capacity of the
cluster.comm.egress_queue_length.{host}.{msg_type}.{channel}	gauge	Length of the e
cluster.comm.egress_queue_workers.{channel}	gauge	Count of egress
cluster.comm.egress_stream_count.{channel}	gauge	Count of stream
cluster.comm.egress_tls_connection_count	gauge	Count of TLS co
cluster.comm.ingress_stream_count	gauge	Count of stream
cluster.comm.msg_dropped_count.{host}.{channel}	counter	Count of messa
cluster.comm.msg_send_time.{host}.{channel}	histogram	The time it take
consensus.etcdraft.active_nodes.{channel}	gauge	Number of activ
consensus.etcdraft.cluster_size.{channel}	gauge	Number of nod
consensus.etcdraft.committed_block_number.{channel}	gauge	The block num
consensus.etcdraft.config_proposals_received.{channel}	counter	The total numb
consensus.etcdraft.data_persist_duration.{channel}	histogram	The time taken
consensus.etcdraft.is_leader.{channel}	gauge	The leadership
consensus.etcdraft.leader_changes.{channel}	counter	The number of
consensus.etcdraft.normal_proposals_received.{channel}	counter	The total numb
consensus.etcdraft.proposal_failures.{channel}	counter	The number of
consensus.etcdraft.snapshot_block_number.{channel}	gauge	The block num
consensus.kafka.batch_size.{topic}	gauge	The mean batch
consensus.kafka.compression_ratio.{topic}	gauge	The mean comp
consensus.kafka.incoming_byte_rate.{broker_id}	gauge	Bytes/second r
consensus.kafka.last_offset_persisted.{channel}	gauge	The offset spec
consensus.kafka.outgoing_byte_rate.{broker_id}	gauge	Bytes/second v
consensus.kafka.record_send_rate.{topic}	gauge	The number of
consensus.kafka.records_per_request.{topic}	gauge	The mean num
consensus.kafka.request_latency.{broker_id}	gauge	The mean requ
consensus.kafka.request_rate.{broker_id}	gauge	Requests/secor
consensus.kafka.request_size.{broker_id}	gauge	The mean requ

consensus.kafka.response_rate.{broker_id}	gauge	Requests/second
consensus.kafka.response_size.{broker_id}	gauge	The mean response size
deliver.blocks_sent.{channel}.{filtered}.{data_type}	counter	The number of blocks sent
deliver.requests_completed.{channel}.{filtered}.{data_type}.{success}	counter	The number of requests completed
deliver.requests_received.{channel}.{filtered}.{data_type}	counter	The number of requests received
deliver.streams_closed	counter	The number of streams closed
deliver.streams_opened	counter	The number of streams opened
fabric_version.{version}	gauge	The active version
grpc.comm.conn_closed	counter	gRPC connections closed
grpc.comm.conn_opened	counter	gRPC connections opened
grpc.server.stream_messages_received.{service}.{method}	counter	The number of stream messages received
grpc.server.stream_messages_sent.{service}.{method}	counter	The number of stream messages sent
grpc.server.stream_request_duration.{service}.{method}.{code}	histogram	The time to complete a stream request
grpc.server.stream_requests_completed.{service}.{method}.{code}	counter	The number of stream requests completed
grpc.server.stream_requests_received.{service}.{method}	counter	The number of stream requests received
grpc.server.unary_request_duration.{service}.{method}.{code}	histogram	The time to complete a unary request
grpc.server.unary_requests_completed.{service}.{method}.{code}	counter	The number of unary requests completed
grpc.server.unary_requests_received.{service}.{method}	counter	The number of unary requests received
ledger.blockchain_height.{channel}	gauge	Height of the blockchain
ledger.blockstorage_commit_time.{channel}	histogram	Time taken in storage to commit a block
logging.entries_checked.{level}	counter	Number of log entries checked
logging.entries_written.{level}	counter	Number of log entries written

Peer Metrics

Prometheus

The following peer metrics are exported for consumption by Prometheus.

Name	Type	Description
chaincode_execute_timeouts	counter	The number of chaincode executions that timed out.
chaincode_launch_duration	histogram	The time to launch a chaincode.
chaincode_launch_failures	counter	The number of chaincode launches that failed.
chaincode_launch_timeouts	counter	The number of chaincode launches that timed out.

chaincode_shim_request_duration	histogram	The time to complete chaincode shim request
chaincode_shim_requests_completed	counter	The number of chaincode shim requests completed
chaincode_shim_requests_received	counter	The number of chaincode shim requests received
couchdb_processing_time	histogram	Time taken in seconds for the function to process a request
deliver_blocks_sent	counter	The number of blocks sent by the deliverer
deliver_requests_completed	counter	The number of deliver requests that have completed
deliver_requests_received	counter	The number of deliver requests that have been received
deliver_streams_closed	counter	The number of GRPC streams that have been closed
deliver_streams_opened	counter	The number of GRPC streams that have been opened
dockercontroller_chaincode_container_build_duration	histogram	The time to build a chaincode image
endorser_chaincode_instantiation_failures	counter	The number of chaincode instantiation failures
endorser_duplicate_transaction_failures	counter	The number of failed proposals due to duplicate transactions
endorser_endorsement_failures	counter	The number of failed endorsements.

endorser_proposal_acl_failures	counter	The number of proposals that failed
endorser_proposal_duration	histogram	The time to complete a proposal.
endorser_proposal_simulation_failures	counter	The number of failed proposal simulations
endorser_proposal_validation_failures	counter	The number of proposals that have failed validation
endorser_proposals_received	counter	The number of proposals received.
endorser_successful_proposals	counter	The number of successful proposals.
fabric_version	gauge	The active version of Fabric.
gossip_comm_messages_received	counter	Number of messages received
gossip_comm_messages_sent	counter	Number of messages sent
gossip_comm_overflow_count	counter	Number of outgoing queue buffer overflows
gossip_leader_election_leader	gauge	Peer is leader (1) or follower (0)
gossip_membership_total_peers_known	gauge	Total known peers
gossip_payload_buffer_size	gauge	Size of the payload buffer
gossip_privdata_commit_block_duration	histogram	Time it takes to commit private data
gossip_privdata_fetch_duration	histogram	Time it takes to fetch missing private data
gossip_privdata_list_missing_duration	histogram	Time it takes to list the missing private data
gossip_privdata_pull_duration	histogram	Time it takes to pull a missing private data
gossip_privdata_purge_duration	histogram	Time it takes to purge private data (in seconds)
gossip_privdata_reconciliation_duration	histogram	Time it takes for reconciliation to complete
gossip_privdata_retrieve_duration	histogram	Time it takes to retrieve missing private data
gossip_privdata_send_duration	histogram	Time it takes to send a missing private data
gossip_privdata_validation_duration	histogram	Time it takes to validate a block (in seconds)
gossip_state_commit_duration	histogram	Time it takes to commit a block in seconds
gossip_state_height	gauge	Current ledger height
grpc_comm_conn_closed	counter	gRPC connections closed. Open minimum 1
grpc_comm_conn_opened	counter	gRPC connections opened. Open minimum 1
grpc_server_stream_messages_received	counter	The number of stream messages received

grpc_server_stream_messages_sent	counter	The number of stream messages sent
grpc_server_stream_request_duration	histogram	The time to complete a stream request
grpc_server_stream_requests_completed	counter	The number of stream requests completed
grpc_server_stream_requests_received	counter	The number of stream requests received
grpc_server_unary_request_duration	histogram	The time to complete a unary request
grpc_server_unary_requests_completed	counter	The number of unary requests completed
grpc_server_unary_requests_received	counter	The number of unary requests received
ledger_block_processing_time	histogram	Time taken in seconds for ledger block processing
ledger_blockchain_height	gauge	Height of the chain in blocks.
ledger_blockstorage_and_pvtdata_commit_time	histogram	Time taken in seconds for committing ledger blockstorage and pvtdata
ledger_blockstorage_commit_time	histogram	Time taken in seconds for committing ledger blockstorage
ledger_statedb_commit_time	histogram	Time taken in seconds for committing ledger statedb
ledger_transaction_count	counter	Number of transactions processed.
logging_entries_checked	counter	Number of log entries checked against the database
logging_entries_written	counter	Number of log entries that are written to the database

The following peer metrics are emitted for consumption by StatsD. The `%{variable_name}` nomenclature represents segments that vary based on context.

For example, `%{channel}` will be replaced with the name of the channel associated with the metric.

Bucket	Type	
chaincode.execute_timeouts.%{chaincode}	counter	
chaincode.launch_duration.%{chaincode}.%{success}	histogram	
chaincode.launch_failures.%{chaincode}	counter	
chaincode.launch_timeouts.%{chaincode}	counter	
chaincode.shim_request_duration.%{type}.%{channel}.%{chaincode}.%{success}	histogram	
chaincode.shim_requests_completed.%{type}.%{channel}.%{chaincode}.%{success}	counter	
chaincode.shim_requests_received.%{type}.%{channel}.%{chaincode}	counter	
couchdb.processing_time.%{database}.%{function_name}.%{result}	histogram	
deliver.blocks_sent.%{channel}.%{filtered}.%{data_type}	counter	
deliver.requests_completed.%{channel}.%{filtered}.%{data_type}.%{success}	counter	
deliver.requests_received.%{channel}.%{filtered}.%{data_type}	counter	
deliver.streams_closed	counter	
deliver.streams_opened	counter	
dockercontroller.chaincode_container_build_duration.%{chaincode}.%{success}	histogram	
endorser.chaincode_instantiation_failures.%{channel}.%{chaincode}	counter	
endorser.duplicate_transaction_failures.%{channel}.%{chaincode}	counter	
endorser.endorsement_failures.%{channel}.%{chaincode}.%{chaincodeerror}	counter	
endorser.proposal_acl_failures.%{channel}.%{chaincode}	counter	
endorser.proposal_duration.%{channel}.%{chaincode}.%{success}	histogram	
endorser.proposal_simulation_failures.%{channel}.%{chaincode}	counter	
endorser.proposal_validation_failures	counter	
endorser.proposals_received	counter	
endorser.successful_proposals	counter	
fabric_version.%{version}	gauge	
gossip.comm.messages_received	counter	
gossip.comm.messages_sent	counter	
gossip.comm.overflow_count	counter	
gossip.leader_election.leader.%{channel}	gauge	

gossip.membership.total_peers_known.{channel}	gauge	
gossip.payload_buffer.size.{channel}	gauge	
gossip.privdata.commit_block_duration.{channel}	histogram	
gossip.privdata.fetch_duration.{channel}	histogram	
gossip.privdata.list_missing_duration.{channel}	histogram	
gossip.privdata.pull_duration.{channel}	histogram	
gossip.privdata.purge_duration.{channel}	histogram	
gossip.privdata.reconciliation_duration.{channel}	histogram	
gossip.privdata.retrieve_duration.{channel}	histogram	
gossip.privdata.send_duration.{channel}	histogram	
gossip.privdata.validation_duration.{channel}	histogram	
gossip.state.commit_duration.{channel}	histogram	
gossip.state.height.{channel}	gauge	
grpc.comm.conn_closed	counter	
grpc.comm.conn_opened	counter	
grpc.server.stream_messages_received.{service}.{method}	counter	
grpc.server.stream_messages_sent.{service}.{method}	counter	
grpc.server.stream_request_duration.{service}.{method}.{code}	histogram	
grpc.server.stream_requests_completed.{service}.{method}.{code}	counter	
grpc.server.stream_requests_received.{service}.{method}	counter	
grpc.server.unary_request_duration.{service}.{method}.{code}	histogram	
grpc.server.unary_requests_completed.{service}.{method}.{code}	counter	
grpc.server.unary_requests_received.{service}.{method}	counter	
ledger.block_processing_time.{channel}	histogram	
ledger.blockchain_height.{channel}	gauge	
ledger.blockstorage_and_pvtdata_commit_time.{channel}	histogram	
ledger.blockstorage_commit_time.{channel}	histogram	
ledger.statedb_commit_time.{channel}	histogram	
ledger.transaction_count.{channel}.{transaction_type}.{chaincode}.{validation_code}	counter	
logging.entries_checked.{level}	counter	
logging.entries_written.{level}	counter	