

KIP-136: Add Listener name to SelectorMetrics tags

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Status

Current state: *"Adopted"*

Discussion thread: [here](#)

JIRA: [KAFKA-4982](#)

Please keep the discussion on the mailing list rather than commenting on the wiki (wiki discussions get unwieldy fast).

Motivation

Currently, per-network-processor-thread metrics, like `socket-server-metrics.connection-count`, `socket-server-metrics.connection-close-rate` etc are tagged with `networkProcessor:<id>` where the id of a network processor is just a numeric integer.

If you have more than one listener (eg PLAINTEXT, SASL_SSL, etc.), the id just keeps incrementing and when looking at the metrics it is hard to match the metric tag to a listener.

You need to know the number of network threads and the order in which the listeners are declared in the brokers' `server.properties` to properly aggregate per protocol.

On the **broker side** only - where multiple security protocol can coexist - we should add a tag showing the listener label, that would also make it much easier to group the metrics in a tool like Grafana.

This KIP is co-authored with [Mickael Maison](#)

Public Interfaces

- *Monitoring*

The metrics in the socket-server-metrics group will gain two new entries in their tags map, Security Protocol name and the Listener name

Proposed Changes

Example representation of the metrics in JConsole :

Current tag set : network processor id only

The screenshot shows the 'MBeans' tab in the JMX console. The 'Attribute values' table displays various metrics for the 'socket-server-metrics' MBean. The table has two columns: 'Name' and 'Value'.

Name	Value
connection-accept-rate	0.0
connection-close-rate	0.0
connection-count	0.0
connection-creation-rate	0.0
connection-prepare-rate	0.0
incoming-byte-rate	0.0
io-ratio	3.9307171161958327E-5
io-time-ns-avg	11941.747572815533
io-wait-ratio	1.0005933145851975
io-wait-time-ns-avg	3.039860776699029E8
network-io-rate	0.0
outgoing-byte-rate	0.0
request-rate	0.0
request-size-avg	0.0
request-size-max	-Infinity
response-rate	0.0
select-rate	3.291576121692445

A 'Refresh' button is located at the bottom right of the table.

Initially proposed tag set : security protocol, listener name, network processor id

The screenshot shows the 'MBeanInfo' and 'Descriptor' tabs for the 'MYPLAINTEXTLABEL' MBean. The 'MBeanInfo' tab displays the following information:

Name	Value
Info:	
ObjectName	kafka.server:type=socket-server-metrics,protocol=PLAINTEXT,listener=MYPLAINTEXTLABEL,network...
ClassName	org.apache.kafka.common.metrics.JmxReporter\$KafkaMBean
Description	

The 'Descriptor' tab is currently empty.

Eventually implemented tag set: listener name, network processor id

The screenshot shows the 'Attributes' tab for the 'MY_SASL_PTXT1' MBean. The 'Attributes' table displays various metrics for the 'MY_SASL_PTXT1' MBean. The table has two columns: 'Name' and 'Value'.

Name	Value
3	
4	
5	
6	
7	
8	
0	
1	
2	

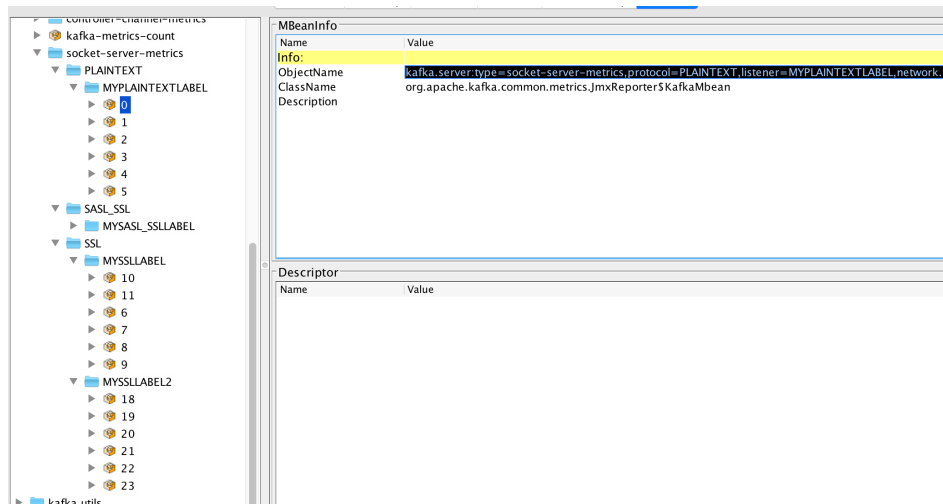
Compatibility, Deprecation, and Migration Plan

- What impact (if any) will there be on existing users?
Users currently using reporters that do not support metric tags and flatten the tags map into the metrics name, will find that the name has changed
- The Yammer metric "**IdlePercent**" should remain not tagged with listener, for compatibility; It's an alias to the Kafka metric "io-wait-ratio" that gets tagged
- The socket-server-metrics.* are not exposed as Yammer metrics which are still the most commonly consumed server-side metrics, so the impact of this change is mitigated (thanks [Ismael Juma Juma](#))

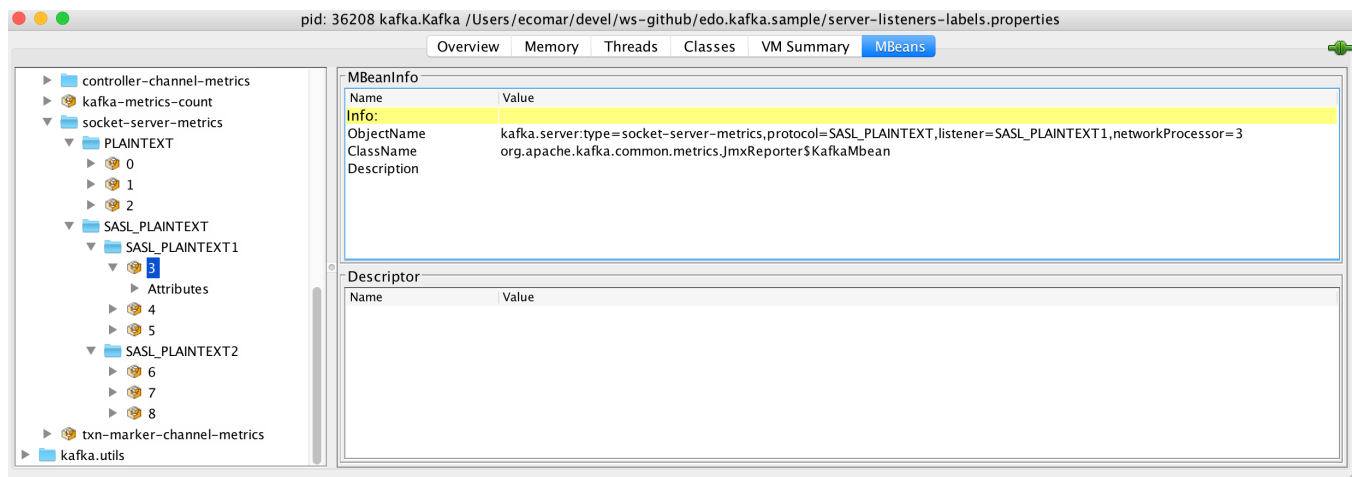
Rejected Alternatives

1) Having both listener and securityProtocol tags, in favor of having just the listener, as this reduces clutter
And in most simple cases, the two tags could end up having the same value

Proposed tag set : security protocol, listener name, network processor id



2) The listener tag could be omitted if it is the same as the protocol one :



rejected as Listener names and security protocols are different concepts (even if the default value is the same for compatibility reasons)
and it's a bit odd to expect generic tools that process Kafka metrics to have to fallback to the security protocol if listener name is missing.