KIP-639: Move nodeLevelSensor and storeLevelSensor methods from StreamsMetricsImpl to StreamsMetrics

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Status

Current state: Under Discussion

Discussion thread: [DISCUSS] KIP-639 Move nodeLevelSensor and storeLevelSensor methods from StreamsMetricsImpl to StreamsMetrics

JIRA: KAFKA-10217

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

Motivation

StreamsMetricsImpl contains several convenience methods for safely registering sensors at different levels of granularity. We added them as internal methods because we weren't sure of their stability and utility. Now, they've been in use for quite a while and seem to be stable.

We should move them up into the public API so that custom stores and processor implementations can also benefit from their safety.

Implementing this feature should also allow us to drop the adaptor function: `org.apache.kafka.streams.processor.internals. ProcessorContextUtils#getMetricsImpl`

Public Interfaces

Add four methods to `StreamsMetrics`.

```
// New Method
Sensor nodeLevelSensor(final String threadId,
                                  final String taskId,
                                  final String processorNodeName,
                                  final String sensorName,
                                  final Sensor.RecordingLevel recordingLevel,
                                  final Sensor... parents);
// New Method
Sensor storeLevelSensor(final String threadId,
                                         final String taskId,
                                         final String storeName,
                                         final String sensorName,
                                         final Sensor.RecordingLevel recordingLevel,
                                         final Sensor... parents);
// New Method
Map<String, String> nodeLevelTagMap(final String threadId,
                                               final String taskName,
                                               final String processorNodeName);
// New Method
Map<String, String> storeLevelTagMap(final String threadId,
                                                final String taskName,
                                                final String storeType,
                                                 final String storeName);
```

Proposed Changes

Move nodeLevelSensor and storeLevelSensor methods from StreamsMetricsImpl to StreamsMetrics.

Compatibility, Deprecation, and Migration Plan

Nothing to do.

Rejected Alternatives