KIP-703: Add a metrics for reporting idle connections closed

Status

Current state: *Under Discussion*

Discussion thread: *here*

JIRA: *KAFKA-12166*

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

Motivation

Kafka closes connections that have been idle for a given amount of time (based on connection.max.idle.ms configuration, that has by default 10 minutes in the latest version).

There might be cases where clients become idle for a while, for example when a Change Data Capture is streaming changes but updated happen in batched series. As of now, the only way to notice when a connection is closed because of being idle is by enabling TRACE logs, however, it would be very useful to have a JMX metric to track this behaviour from the monitoring stack of choice.

Public Interfaces

A new sensor is going to be created to track the number of idle connections closed under the Selector.java class, only affected interface is the monitoring. This change is backwards compatible as no old sensors are touched.

The change should look something like this:

```
this.idleConnectionClosed = sensor("idle-connections-closed:" + tagsSuffix);
```

```
this.idleConnectionClosed.add(createMeter(metrics, metricGrpName, metricTags, "idle-connection-close", "idle connections closed"));
```

Proposed Changes

The change is actually small, first part would be to add a sensor and register it properly, it would look something like:

```
this.idleConnectionClosed = sensor("idle-connections-closed:" + tagsSuffix);
```

```
this.idleConnectionClosed.add(createMeter(metrics, metricGrpName, metricTags, "idle-connection-close", "idle connections closed"));
```

In the SelectorMetrics constructor. This would create a new meter that we can use to record the closed connections when happening.

Once this is done, we can just record the event when the connection is closed, this would mean adding a line like:

```
sensors.idleConnectionClosed.record();
```

At the end of the method *maybeCloseOldestConnection* in the Selector class.

With these changes, all idle connections closed will be reported in the JMX reporters.

Compatibility, Deprecation, and Migration Plan

- *No impact to current users as the change adds a new metric, no former behaviour is altered.*

Rejected Alternatives

If there are alternative ways of accomplishing the same thing, what were they? The purpose of this section is to motivate why the design is the way it is and not some other way.