KIP-958: Tiered Storage Metrics

Status

Current state: *Draft*

Discussion thread: *here*

JIRA: *here*

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

Motivation

We should add metrics for the RemoteIndexCache which is a cache of remote index files. The cache helps in avoiding re-fetching the index files like offset, and time indexes from the remote storage for every fetch call. Adding these metrics will improve the observability required for debugging issues.

Public Interfaces

The following metrics will be added to expose cache stats for the Remote Index Cache.

Name	Description
org.apache.kafka.storage.internals.log:type=RemoteIndexCache, name=HitCount	The number of cache hits for the remote index cache.
org.apache.kafka.storage.internals.log:type=RemoteIndexCache, name=MissCount	The number of cache misses for the remote index cache.
org.apache.kafka.storage.internals.log:type=RemoteIndexCache, name=EvictionCount	The number of entries evicted from the remote index cache.
org.apache.kafka.storage.internals.log:type=RemoteIndexCache, name=LoadSuccessCount	The number of successful cache loads for the remote index cache.
org.apache.kafka.storage.internals.log:type=RemoteIndexCache, name=LoadFailureCount	The number of failed cache loads for the remote index cache.
org.apache.kafka.storage.internals.log:type=RemoteIndexCache, name=TotalLoadTime	Total load time (success and failure) for the remote index cache.
org.apache.kafka.storage.internals.log:type=RemoteIndexCache, name=EvictionWeight	The sum of weights of entries evicted from the remote index cache.

Compatibility, Deprecation, and Migration Plan

We are only adding new metrics so we don't have to take care of backward compatibility.

Test Plan

Unit Tests for all the introduced metrics in this KIP.

Rejected Alternatives

None