

KIP-627: Expose Trogdor-specific JMX Metrics for Tasks and Agents

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Status

Current state: "Accepted"

Discussion thread: [here](#)

Voting thread: [here](#)

JIRA:  Unable to render Jira issues macro, execution error.

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

Motivation

When running a Trogdor cluster, it is useful to get information about the health of the Trogdor cluster itself.

Currently, a user would need to query Trogdor's REST API in order to get any sort of information about a Trogdor cluster. This presents a significant burden on the user and limits the amount of information readily and easily available in terms of the health of a Trogdor cluster. Thus, adding metrics would allow for significant ease in monitoring agents and tasks in Trogdor clusters.

Public Interfaces

We define a new *trogdor-metrics* group that captures the metrics as defined below.

Metric/Attribute Name	Description
active-agents-count	The total number of active agents in the Trogdor cluster
created-task-count	The total number of created tasks in the Trogdor cluster
running-task-count	The total number of running tasks in the Trogdor cluster
done-task-count	The total number of done tasks in the Trogdor cluster

All metrics listed above are simply cumulative sums of the number of tasks/agents in each respective state. Thus, as these are cumulative counters, we expect that when a Trogdor cluster has finished all tasks, we'll have created-task-count = running-task-count = done-task-count.

Proposed Changes

We propose adding a *TrogdorMetrics* class to Trogdor that exposes the aforementioned metrics. Since Trogdor agents and tasks share a common *Platform* class, a *TrogdorContainer* class will be created inside the *Platform* class to allow for the creation of a shared *TrogdorMetrics* instance between the *Agent* and *Coordinator* classes.

Compatibility, Deprecation, and Migration Plan

There should be no impact on compatibility, deprecation, or migration since this KIP simply adds some metrics to Trogdor.

Rejected Alternatives

Since there technically is a STOPPING state for a task in addition to PENDING, RUNNING and DONE, it would be nice to have metrics for each of these states.

However, by way of simple mathematics, we are able to deduce the number of pending tasks by simply subtracting the number of pending tasks from those that are running and done. Similarly, we are able to deduce the number of running tasks from those that are pending and done. The number of done tasks will be the true number of done tasks, with no mathematics necessary. This allows for the tracking of fewer metrics. The STOPPING state is more of a transient state and thus doesn't add too much significance to metrics, so it was deemed useful to only have metrics tracking PENDING, RUNNING, and DONE tasks.