

**PRESCRIPTIVE ANALYTICS BASED DATA WAREHOUSE CLUSTER NODE
OPTIMIZATION STACK FOR CLOUD COMPUTING**

Abstract

A multi-layer cluster node optimization (CNO) stack may generate a token containing cluster node optimization prescriptions for detaching nodes from a storage cluster. A prescriptive engine layer of the CNO stack may select target computing resource nodes from a selected cluster based on the utilization tracking data, the optimization metric thresholds, and the CNO interval; utilize a prediction engine to predict respective storage utilizations over a next operation cycle for the nodes of the selected cluster; generate an aggregated storage utilization prediction for the selected cluster based on the predicted storage utilizations; determine a network traffic coefficient for the selected cluster based on the network traffic data; perform a cluster determination whether to execute a cluster node optimization for the selected cluster based on the aggregated storage utilization prediction and the network traffic coefficient; and generate a CNO token based on the cluster determination.

Figure 1