1. Configure and build virtual instances

A. Which configurations have experiments that are not marked as COMPLETED?
[GET /nextconfig]

Central Database

Master Compute Node

B. Return next configuration with experiments not marked as COMPLETE.
[json]

C. Create instance group with specified vCPU and memory
[gcloud create]
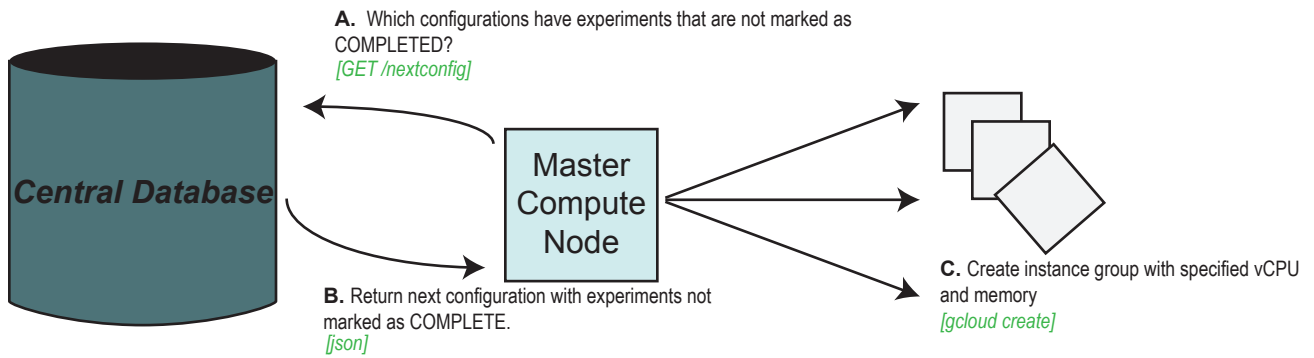
2. Run simulations and report results

Compute Node

RScript

A. Select random experiment within machine's computing capabilities.

Central Database

B. Return experiment specification. *[json]*

Load variables

Fit BRT Model — *Fit Time*

Predict to 2100 — *Predict Time*

Evaluate Accuracy — *Accuracy Time*

Total Time

TimeSDM Function

C. Report time and accuracy measures to the database
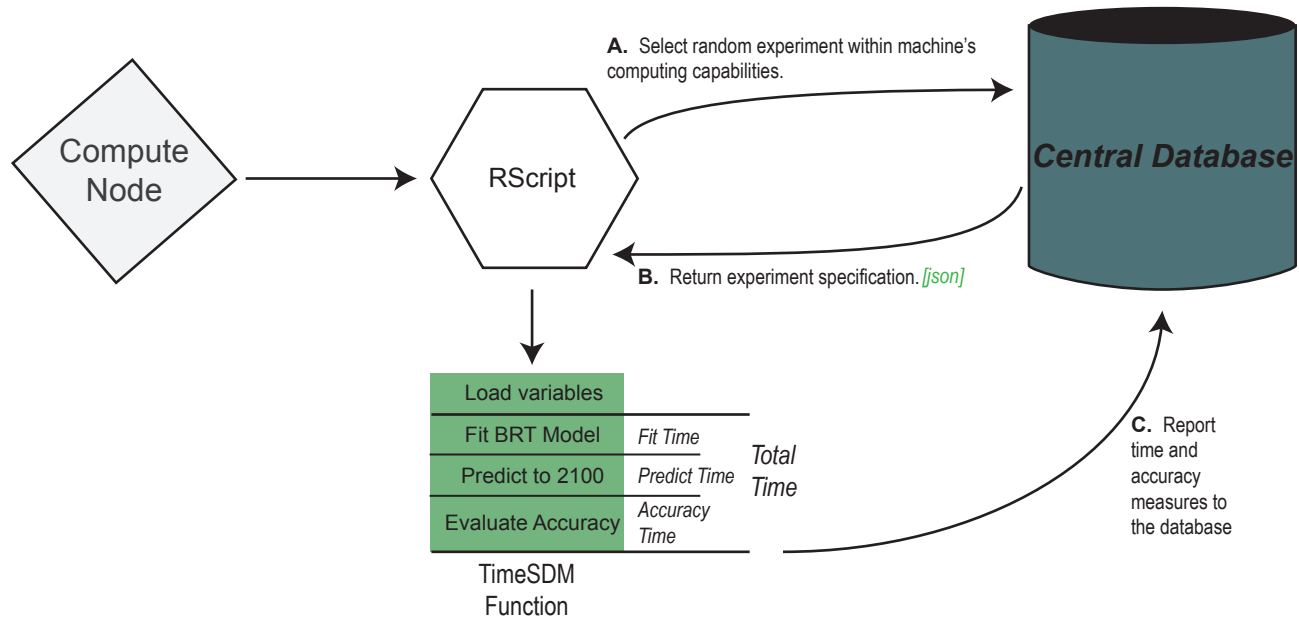
3. Manage virtual infrastructure

A. What percent of the experiments in this configuration have been completed?
[GET configstatus/cores/memory]

Central Database

Poll every 30-seconds

Master Compute Node

B. Return percentage completion.
[json]

if percent == 100

A. Destroy instances, instance group, and instance template
[gcloud delete]