Run-To-Completion

Status: In Progress

Sponsor User: *IBM*

Date of Submission: 26 Aug 2021

Submitted by: Glen Darling

Affiliation(s): IBM

<Please fill out the above fields, and the Overview, Design and User Experience sections below for an initial review of the proposed feature.>

Scope and Signoff: *(to be filled out by Chair)*

Open Horizon should enable "run-to-completion" services

Overview

It is useful to be able to deploy containers that just run until they complete, not daemon-like containers that are expected to continue running forever. Open Horizon currently only supports the latter run-forever model so when you have a run-once application you need to wrap it with a process that goes idle after completion (i.e., something like: "while true: sleep"). Also you have to ensure that upon restart (e.g., due to reboot, or power cycle) that the container does not cause damage by trying to run again.

This issue is described in more detail in https://github.com/open-horizon/anax/issues/2458

Design

Bruce has suggested this would best be implemented as a service attribute of, "doNotRestart".

User Experience

This issue has come up in many contexts. A couple of examples are deploying the NVIDIA GPU Operator, and installing the EdgeX Foundry suite. Others include Intel's ORRA, and IBM's MVI.

When integrating with applications, they sometimes use a run-once container instead of a setup script. It's just really convenient to put setup code into a container just like the application code, rather than putting it into a script on the host. Other similar container management tools support this mode of operation and Open Horizon should too.

Command Line Interface

(none)

External Components

(none)

Affected Components

anax

Security

(none)

APIs

Likely there would be corresponding API changes.

Build, Install, Packaging

(none)

Documentation Notes

This new feature would have to be documented, of course.

Test

This new feature would have to be tested, of course.