

z/OS V1R13

IBM Health Checker for z/OS: Timed checks

Session objectives

- Describe newly available services and techniques related to health check scheduling

Overview

▪ Problem Statement / Need Addressed:

- Health checks are usually run the first time right when they are added to Health Checker. This time might be unpredictable since it's based on when Health Checker is started or when health checks get added manually to Health Checker.
- Also, health checks can be configured to run more than ONETIME, via specific INTERVAL values.
- While this interval specifies the time between check runs (“iterations”), it starts “ticking” when the previous check iteration finished. This makes the next run's start time unpredictable over time (dependent not just on the first start time, but also on individual check run times)

▪ Solution:

- While the existing behavior works for most checks and checks are typically short running, a new check attribute SYNCVAL can now help to **make a check's first and secondary start times more predictable**.
- SYNCVAL allows to specify a concrete time of day **when the check should be run the first time**
- Also, specifying such a “synchronization value” always makes the check's **INTERVAL count from (synchronize with) the check start time** (as compared to check finish time)
- (this and all the following applies equally to an EXCEPTION INTERVAL)

▪ Benefit:

- Check run times become more predictable and an installation can schedule certain health checks at more appropriate times.

Usage and invocation

- To emphasize the “installation customization” aspect of this SYNCVAL attribute, the new keyword is only allowed on check POLICY statements (and not e.g. on Add Check statements):

- ADD POLICY=*policy-name*
STATEMENT=*policy-statement-name*
UPDATE CHECK(*check-owner-filter,check-name-filter*)
SYNCVAL({SYSTEM|*hh:mm*|*:*mm*})

...

- ACTIVATE POLICY=*policy-name*

- **SYNCVAL(SYSTEM)** is the default, which let's a check behave the old way:

- The checks starts, when added, or, if added INACTIVE, when being activated
- A given check INTERVAL starts at the time a check run finishes if not INTERVAL(ONETIME) to begin with

- **SYNCVAL(*hh:mm*)** let's the check run for the first time at the specified time of day (or the next day's, if that time has already passed)

- It also gives a synchronization point for consecutive check run times, in conjunction with the check's INTERVAL

- For example: A check with SYNCVAL(20:00) and INTERVAL(12:00) will

- Start at 8PM for the first time
- Will be scheduled to run at 8AM and 8PM on any following day
- Previously the check might have been added to Health Checker at say 19:34, and with a runtime of about 2 minutes, would have been likely scheduled to run again at 7:36AM, 7:38PM, 7:40AM, 7:42PM, ...

- **SYNCVAL(*:*mm*)** lets the check start at the given minute of the current hour (or of the next hour, if that minute already has passed)

- It also gives a synchronization point for consecutive check run times, in conjunction with the check's INTERVAL

- For example: A check is added at 7:03PM and a matching POLICY with with SYNCVAL(*:15) and INTERVAL(00:20) is active, then

- The check will start at 7:15PM for the first time
- And will be scheduled to run again at 7:35PM, 7:55PM, 8:15PM, 8:35PM...

- For an INTERVAL of 06:00 instead,

- The check will still start at 7:15PM for the first time
- And will be scheduled to run again at 1:15AM, 7:15AM, 1:15PM, 7:15PM, ...

- Note: The system will always pick the next “sync point” once a check iteration finishes. There's no “catch-up” for any “natural” sync points “missed” during a long running check iteration

Interactions and dependencies

- Software Dependencies
 - None
- Hardware Dependencies
 - None
- Exploiters
 - Operators and System Programmers

Migration and coexistence considerations

- This function and associated syntax is only available in z/OS V1R13 and higher.

- Existing syntax will work as is and appropriate defaults will be chosen for any new values, guaranteeing unchanged behavior for existing checks.

Installation

- The new function is part of the IBM Health Checker for z/OS, which is shipped with the base operating system.

Session summary

- A SYNCVAL can be specified via a health check POLICY, allowing predictable check start times and synchronized, predictable consecutive check runs.

Appendix - References

- Related Publications
 - “IBM Health Checker for z/OS User's Guide” (SA22-7994)
 - Includes all the details for the new function and its associated syntax
 - “Exploiting the Health Checker for z/OS infrastructure”
 - Redpaper 4590