

# Benefits of Using the HP Performance Agent 5.00 in Solaris Non-Global Zones



Problem Statement .....	2
How is the HP Performance Agent different from the EPC in collecting metrics from the non-global zone? .....	2
Additional benefits.....	3

## Problem Statement

The embedded performance component (EPC; also known as coda) of the HP Operations agent collects and stores metrics related to system resources (CPU, memory, disk, file system, and network). On Solaris, the EPC uses the `kstat` interface to collect these metrics in both global and non-global zones.

The `kstat` interface is a standard set of functions and data structures. This interface uses a pseudo device—`/dev/kstat`—to retrieve the performance statistics.

In non-global zones, metric values returned by `kstat` match the metric values obtained from the global zone. Therefore, metric values collected by the EPC from non-global zones will match with the metric values collected from the global zone (barring a few metrics).

The EPC, in effect, uses different performance counters provided by Solaris to retrieve the performance statistics of the system. These performance counters present the accurate status of health and performance of a physical Solaris system or a global zone, but do not represent the correct status of non-global zones. Therefore, to gather the true performance characteristics of non-global zones, you must deploy a solution that provides an accurate representation of non-global zones.

## How is the HP Performance Agent different from the EPC in collecting metrics from the non-global zone?

The HP Performance Agent (Performance Agent), in addition to `kstat`, uses multiple libraries to collect metrics while running in non-global Solaris zones. The Performance Agent has the ability to differentiate between global and non-global zones, and therefore, is able to process the metrics collected from non-global zones to represent the true performance status.

The Performance Agent can collect metrics from non-global zones only on from Solaris 10 (update 5) systems.

The following metric classes represent the metrics that indicate different values in global and non-global zones, and therefore, are represented incorrectly by the EPC in non-global zones:

- **Global CPU metrics:** Aggregated CPU metrics for the monitored zone; the Performance Agent sources these metrics from the `/proc` interface. The Performance Agent identifies and groups the processes running in a non-global zone, and then performs appropriate calculations on the retrieved data to log the correct metric value.
- **Global Memory metrics:** Aggregated memory metrics that indicate the usage of the physical memory for the monitored zone; the Performance Agent retrieves the resident memory values of all the applications running in a non-global zone, and then logs the correct metric value.

## Additional benefits

The Performance Agent introduces a new class of metrics—the `BYLS` class. When the Performance Agent runs in the global zone, the `BYLS` class presents metrics that indicate performance details of the resources allocated for the associated non-global zones.

With the advanced collection mechanism and the additional metric class (`BYLS`), the Performance Agent overcomes the limitations experienced with the EPC and presents a meaningful representation of the system health and performance in a virtual environment.

© 2010 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

