
Article

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YASPE (Yet Another System Performance Extractor)

YASPE is the successor to YAPE (Yet Another pButtons Extractor). YASPE has been written from the ground up with many internal changes to allow easier maintenance and enhancements.

YASPE functions:

- Parse and chart InterSystems Caché pButtons and InterSystems IRIS SystemPerformance files for quick performance analysis of Operating System and IRIS metrics.
- Allow a deeper dive by creating ad-hoc charts and by creating charts combining the Operating System and IRIS metrics with the "Pretty Performance" option.
- The "System Overview" option saves you from searching your SystemPerformance files for system details or common configuration options.

YASPE is written in Python and is available on GitHub as source code or for Docker containers at:

- <https://github.com/murrayo/yaspe>

YASPE is more focused on the current Operating System and IRIS versions. If you run older versions and have problems with YASPE, you can see if you successfully run your performance files through YAPE. If you have problems, do not hesitate to contact me through GitHub.

Examples

Output files

Options include:

- HTML or PNG charts for all columns in mgstat and vmstat or windows perfmon and output to folders.
- It is optional to create charts for iostat as this can take a long time if there is a big disk list.
- A CSV file for further manual processing, for example, with Excel.

Pretty Performance

Below is the example custom chart, Glorefs (mgstat) and Total CPU utilisation (vmstat).

Below is one of the default images, which includes a zoom to a specified time (or defaults to 13:00-14:00).

System Overview

yaspe includes a system overview and basic config check (-s)

This check is designed to save you from hunting through your SystemPerformance file looking for system details. An example of overview.txt follows:

System Summary for your site name

```
Hostname      : YOURHOST
Instance      : SHADOW
Operating system : Linux
Platform      : N/A
CPUs          : 24
Processor model : Intel(R) Xeon(R) Gold 6248 CPU @ 2.50GHz
Memory        : 126 GB
Shared memory  : globals 71680 MB + routines 1023 MB + gmheap 1000 MB = 73,703 MB
Version       : Cache for UNIX (Red Hat Enterprise Linux for x86-64) 2018.1.4 (Build 505_1U) Thu May 28 2020 10:11:16 EDT
Date collected  : Profile run "24hours" started at 16:15:00 on Nov 22 2021.
```

Warnings:

- Journal freeze on error is not enabled. If journal IO errors occur database activity that occurs during this period cannot be restored.
- swappiness is 10. For databases 5 is recommended to adjust how aggressive the Linux kernel swaps memory pages to disk.
- Hugepages not set. For performance, memory efficiency and to protect the shared memory from paging out, use huge page memory space. It is not advisable to specify HugePages much higher than the shared memory amount because the unused memory are not be available to other components.
- dirty_background_ratio is 10. InterSystems recommends setting this parameter to 5. This setting is the maximum percentage of active memory that can be filled with dirty pages before pdflush begins to write them.
- dirty_ratio is 30. InterSystems recommends setting this parameter to 10. This setting is the maximum percentage of total memory that can be filled with dirty pages before processes are forced to write dirty buffers themselves during their time slice instead of being allowed to do more writes. These changes force the Linux pdflush daemon to write out dirty pages more often rather than queue large amounts of updates that can potentially flood the storage with a large burst of updates

Recommendations:

- Review and fix warnings above
- Set HugePages, see IRIS documentation: https://docs.intersystems.com/irislatest/csp/docbook/Doc.View.cls?KEY=GCI_prepare_install#GCI_memory_big_linux
- Total memory is 128,755 MB, 75% of total memory is 96,566 MB.
- Shared memory (globals+routines+gmheap) is 73,703 MB. (57% of total memory).
- Number of HugePages for 2048 KB page size for (73,703 MB + 5% buffer = 77,388 MB) is 38694

All instances on this host:

```
- >SHADOW          2018.1.4.505.1.a  56772  /cachesys
```

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Source URL: <https://community.intersystems.com/post/yaspe-yet-another-system-performance-extractor>
