



Information Technology Group
Infrastructure Planning Services

Detailed Application Report - BMC Capacity Optimization (BCO)

Summary

This 'Detailed Application Report' covers the 12 months between August 2015 and August 2016. This report is intended to address the points of review exclusively and no other questions are included.

Points of Review:

Specific to the Production environment of BMC TrueSight Capacity Optimization:

- 1- Are additional hardware resources need for the 2017 budget year?
- 2- Are there indications that non hardware resources are needed for the 2017 budget year?
- 3- Are trends generally flat, as expected for a mature system?
- 4- Are there trend concerns that impact installing version 10.5 or 10.7?

Observations and Recommendations:

These observations and recommendations are based on a moderately through analysis of the data available in the BCO tool (BMC TrueSight Capacity Optimization). Additional data or a more through review may deliver materially different observations and recommendations.

1- The production environment for BMC TrueSight Capacity Optimization appears to be trending generally flat after the upgrade to 10.3 in October 2015 from a daily CPU and memory perspective, except for pwausxbmcd01p which is showing signs of constraint in hourly data. This may be relieved with additional CPU.

There is a storage up trend which currently places the pwauslbmcap01 ~BCO/Repository at 50% daily average. This seems manageable and should not result in the need for additional storage resources.

A swap condition exists on pwaussmntdb01, showing 60% swap used and some persistent swap rates. Memory should be added to this Solaris device (currently has 38 MB and is shared with HP Operations Manager)

2- There is significant inventory of unassigned entities, and a number of errors of ETLs that continually have issues. This may be resolved with contracting BMC Professional Services or Moviri. This is a technical debt that continues to inflate device counts by > 25%.

3- The BCO system has reached a comfortable cadence. Its normal expected rate of growth are mitigated with a conscious effort to retire servers known to BCO. BCO is not expecting significant growth for the next 18 months. There is a push to increase the use of reporting for other groups and to increase the reporting by the capacity teams. It is not clear if this will significantly increase demands.

4- There are no trends that appear to negatively impact installing the next versions of BCO to 10.5 (GA now) or 10.7 (GA by end of year)

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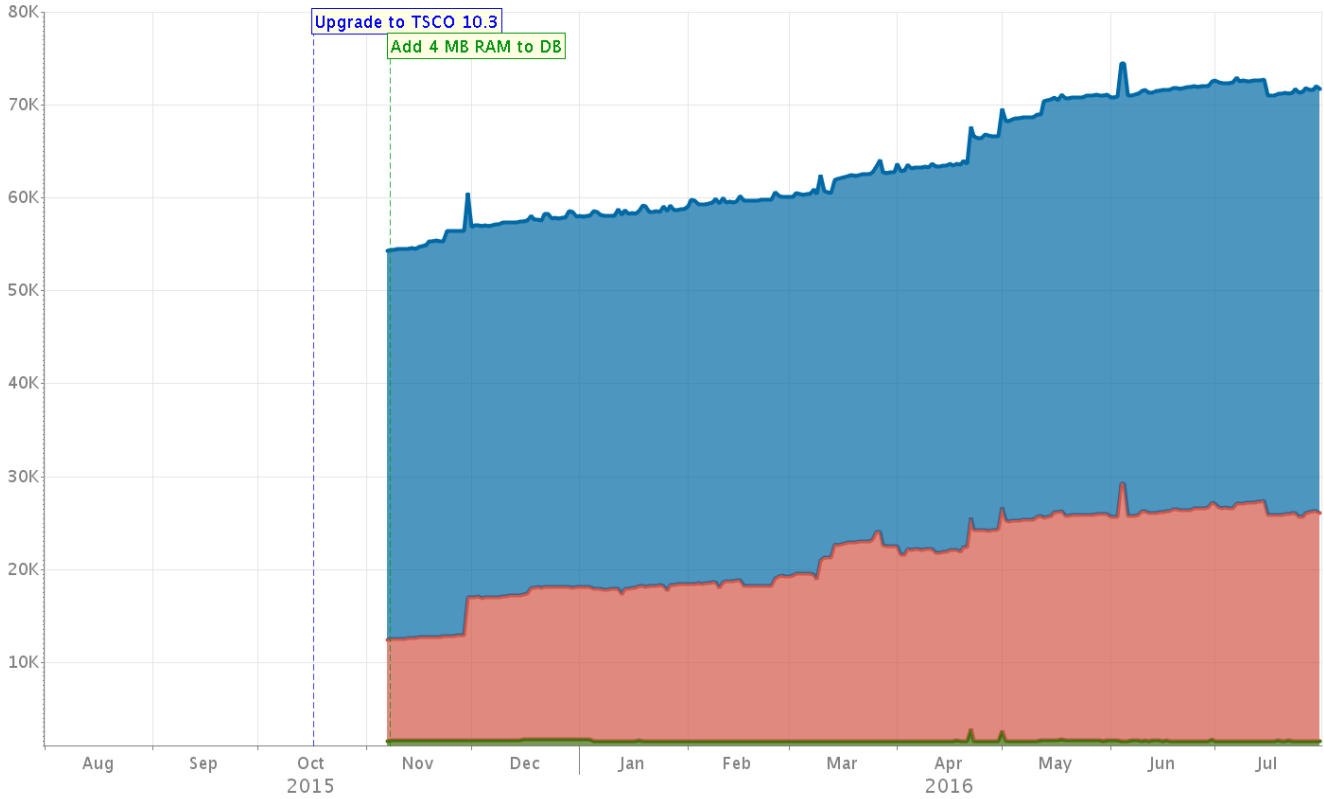
Analysis: Business Drivers - WEEK

Analysis: 12m Business Drivers

Total volume is essentially stable, however fully 25% are unassigned entities. This will take some admin concentration to resolve.

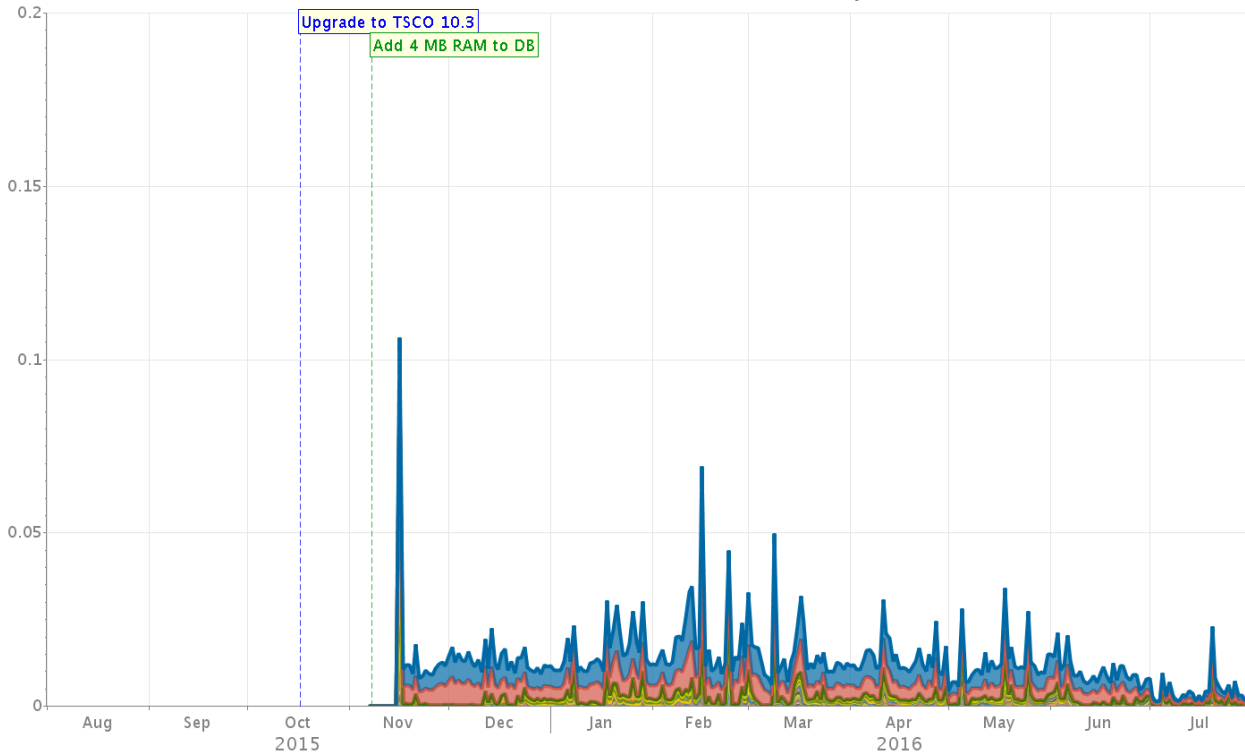
Data gap at the front of the charts is related to the upgrade and administrative actions.

Total Volume – Stacked – (daily)



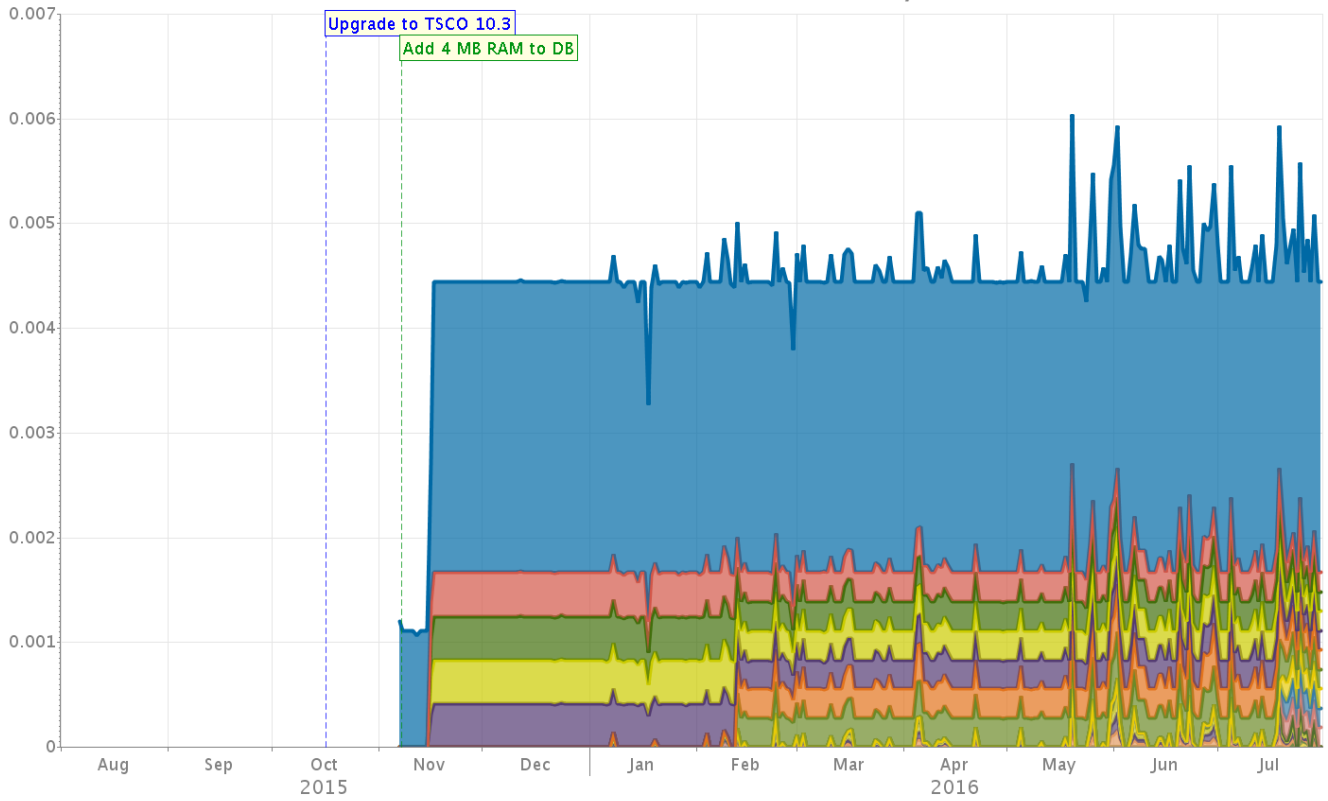
- DatasourcesLoad-Number of active entities [MAX]
- DatasourcesLoad-Number of unassigned entities [MAX]
- DatasourcesLoad-Number of newly discovered entities [MAX]
- Change
- Upgrade to TSCO 10.3

Total Volume – Stacked – (daily)



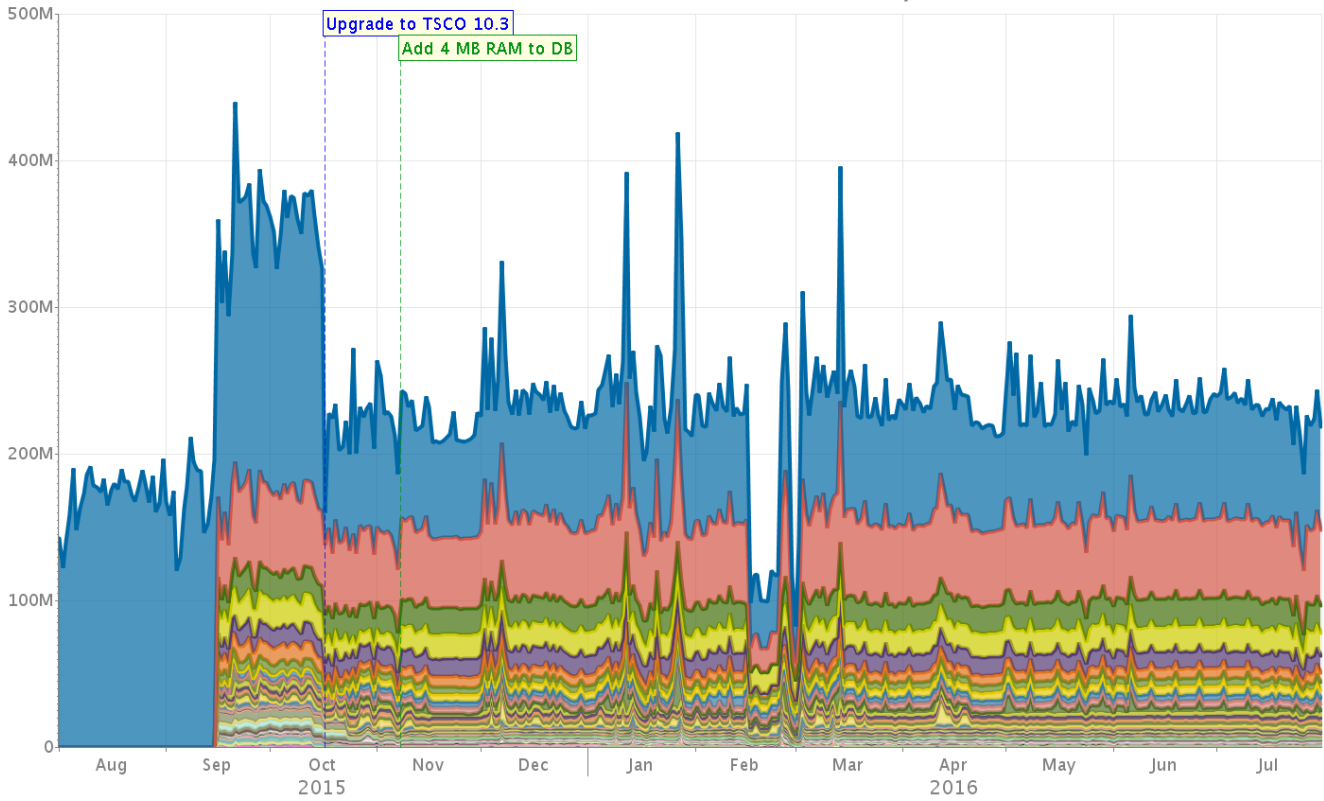
- PlacementAdviceService-API Calls Response time [AVG]
- PlacementAdviceService-API Calls queue time [AVG]
- PlacementAdviceService-By scenario API Calls response time-542 [AVG]
- PlacementAdviceService-By scenario API Calls response time-557 [AVG]
- PlacementAdviceService-By scenario API Calls response time-556 [AVG]
- PlacementAdviceService-By scenario API Calls response time-543 [AVG]
- PlacementAdviceService-By scenario API Calls response time-540 [AVG]
- PlacementAdviceService-By scenario API Calls response time-549 [AVG]
- PlacementAdviceService-By scenario API Calls response time-541 [AVG]
- PlacementAdviceService-By scenario API placement calls response time-539 [AVG]
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- PlacementAdviceService-By scenario API Calls response time-558 [AVG]
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- PlacementAdviceService-By scenario API placement calls response time-548 [AVG]
- PlacementAdviceService-By scenario API Calls queue time-543 [AVG]
- Change
- Upgrade to TSCO 10.3
- ... more series ...

Total Volume – Stacked – (daily)



- PlacementAdviceService-API Calls throughput [AVG]
- PlacementAdviceService-By scenario API Calls throughput-541 [AVG]
- PlacementAdviceService-By scenario API Calls throughput-542 [AVG]
- PlacementAdviceService-By scenario API Calls throughput-540 [AVG]
- PlacementAdviceService-By scenario API Calls throughput-543 [AVG]
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- Change
- Upgrade to TSCO 10.3

Total Volume – Stacked – (daily)



- DatasourcesLoad-Warehouse processing count [SUM]
- DatasourcesLoad-Loaded time series rows-AGGREGATE [SUM]
- DatasourcesLoad-Loaded time series samples by datasource-ETL - HP OPENVIEW PERFORMANCE INSIGHTS...
- DatasourcesLoad-Loaded time series-AGGREGATE [SUM]
- DatasourcesLoad-Loaded time series samples by datasource-ETL - HP OPENVIEW PERFORMANCE INSIGHTS...
- DatasourcesLoad-Loaded configuration rows-AGGREGATE [SUM]
- DatasourcesLoad-Loaded BCO series by datasource-ETL - VMWARE - VCENTER EXTRACTOR SERVICE...
- DatasourcesLoad-Loaded BCO series by datasource-ETL - VMWARE - PWAUSWVMVC10 -PROD [SUM]
- DatasourcesLoad-Loaded time series samples by datasource-ETL - VMWARE - VCENTER EXTRACTOR...
- DatasourcesLoad-Loaded time series samples by datasource-ETL - VMWARE - PWAUSWVMVC10 -PR...
- DatasourcesLoad-Loaded time series samples by datasource-ETL - CA WILY - PERFORMANCE M...
- DatasourcesLoad-Loaded BCO series by datasource-ETL - VMWARE - VCENTER EXTRACTOR SERVICE...
- DatasourcesLoad-Loaded configuration samples by datasource-ETL - HP OPENVIEW PERFORMANCE INSIGHTS...
- DatasourcesLoad-Loaded time series samples by datasource-ETL - VMWARE - VCENTER EXTRACTOR...
- DatasourcesLoad-Loaded time series samples by datasource-ETL - VMWARE - VCENTER HISTORY EX...
- DatasourcesLoad-Loaded time series samples by datasource-27X TRANSACTIONS (AZ) [SUM]
- DatasourcesLoad-Loaded configuration samples by datasource-ETL - VMWARE - VCENTER EXTRA...
- DatasourcesLoad-Loaded configuration samples by datasource-ETL - VMWARE - PWAUSWVMVC10 -P...
- DatasourcesLoad-Loaded BCO series by datasource-ETL - VMWARE PFTWSWVMVC10 - PROD [SUM]
- DatasourcesLoad-Loaded time series samples by datasource-ETL - HP OPENVIEW PERFORMANCE INSIGHTS...
- DatasourcesLoad-Loaded BCO series by datasource-ETL - HP OPENVIEW PERFORMANCE INSIGHTS... A...
- DatasourcesLoad-Loaded time series samples by datasource-RMAS OSC [SUM]
- DatasourcesLoad-Loaded BCO series by datasource-ETL - VMWARE - VCENTER EXTRACTOR SERVICE...
- DatasourcesLoad-Loaded time series samples by datasource-ETL - VMWARE PFTWSWVMVC10 - PRO...
- DatasourcesLoad-Loaded time series samples by datasource-B2B SERVICES ETL [SUM]

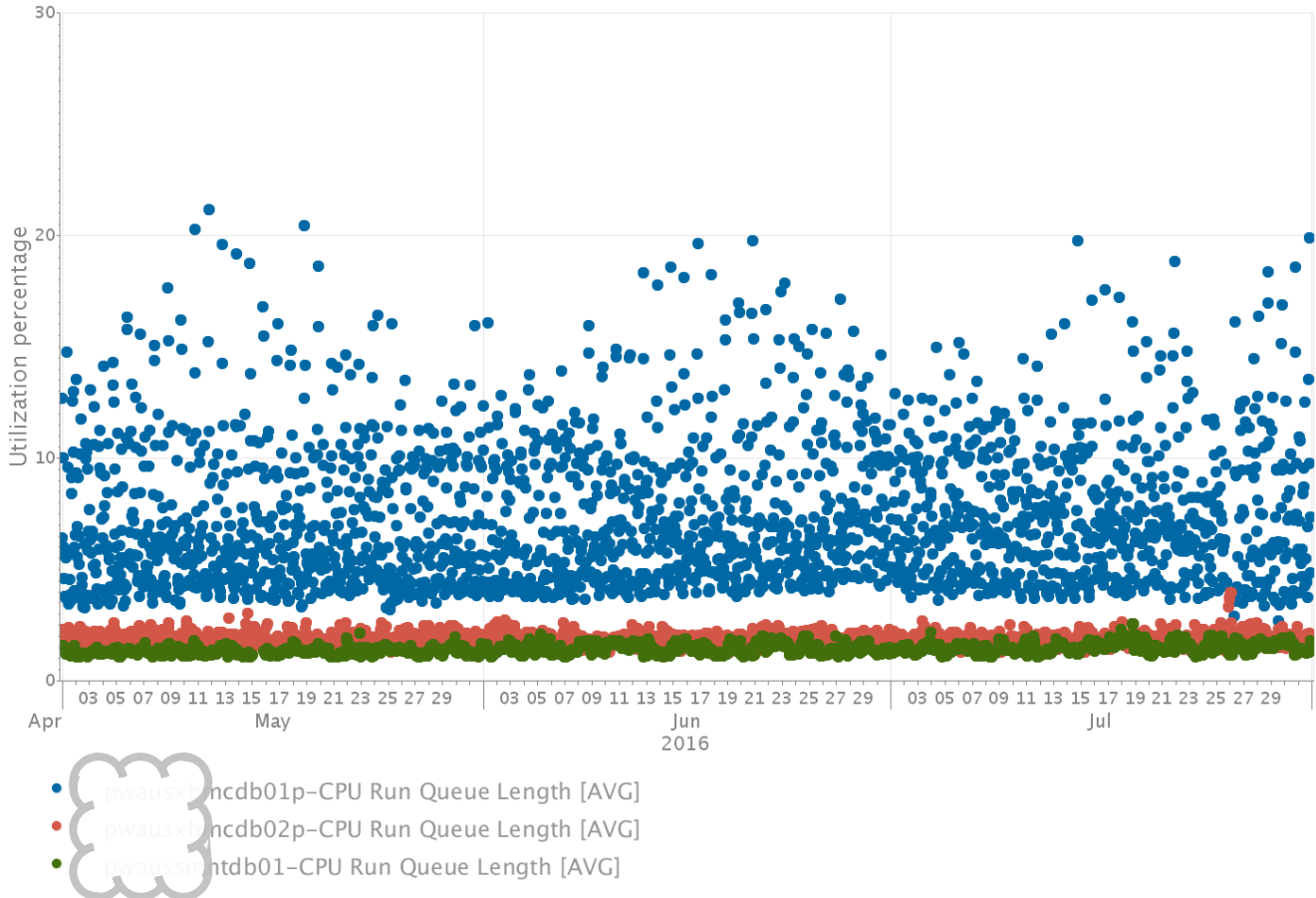
Change
Upgrade to TSCO 10.3
... more series ...

Analysis: 90d CPU, MEM, Swap, RunQueue - AVG Dot

CPU on pwausxbmcdb01p shows a hint of constrained resource in CPU. This is not likely an external resource and has not shows itself as a performance problem, but should be monitored.

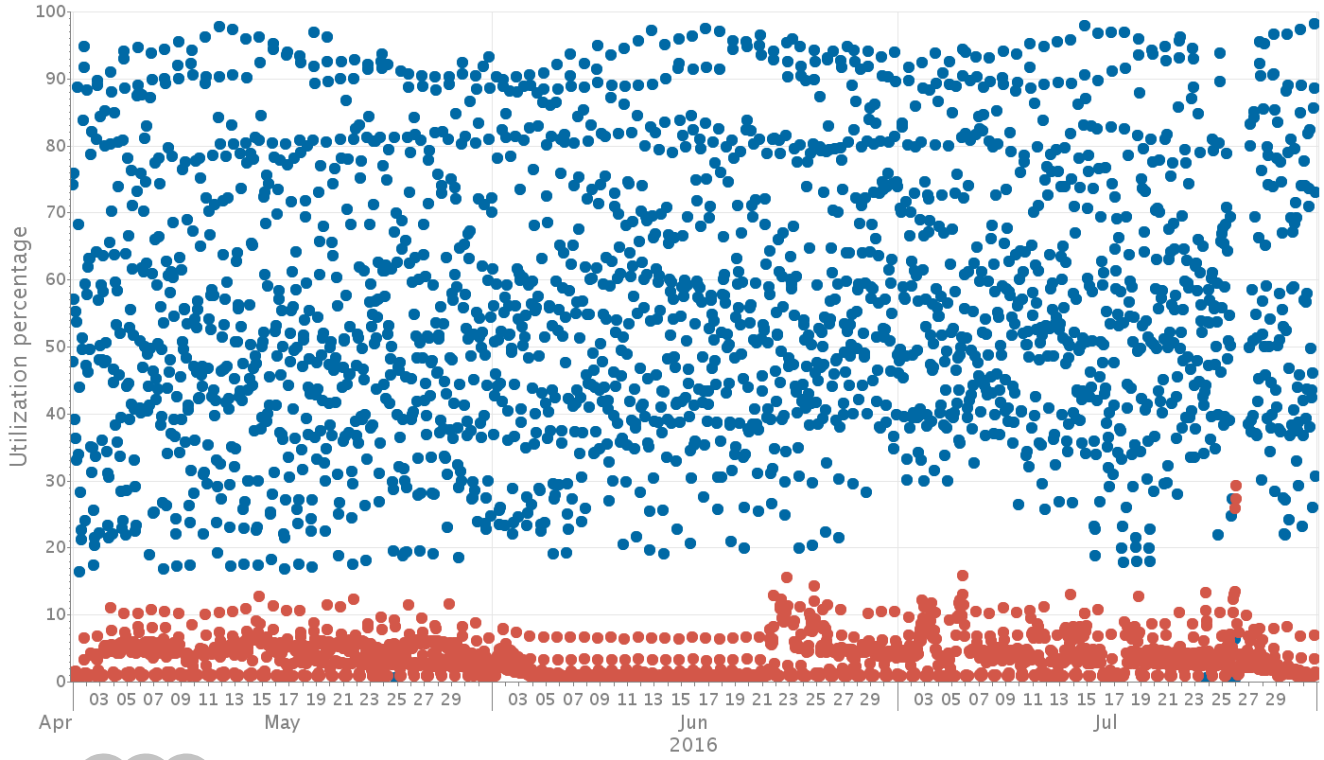
Swap is above 60% on pwaussmntdb01 which is shared with the HP Operations Manager app. This is a Solaris device with 38MB memory.

CPU Run Queue Length
(hourly)



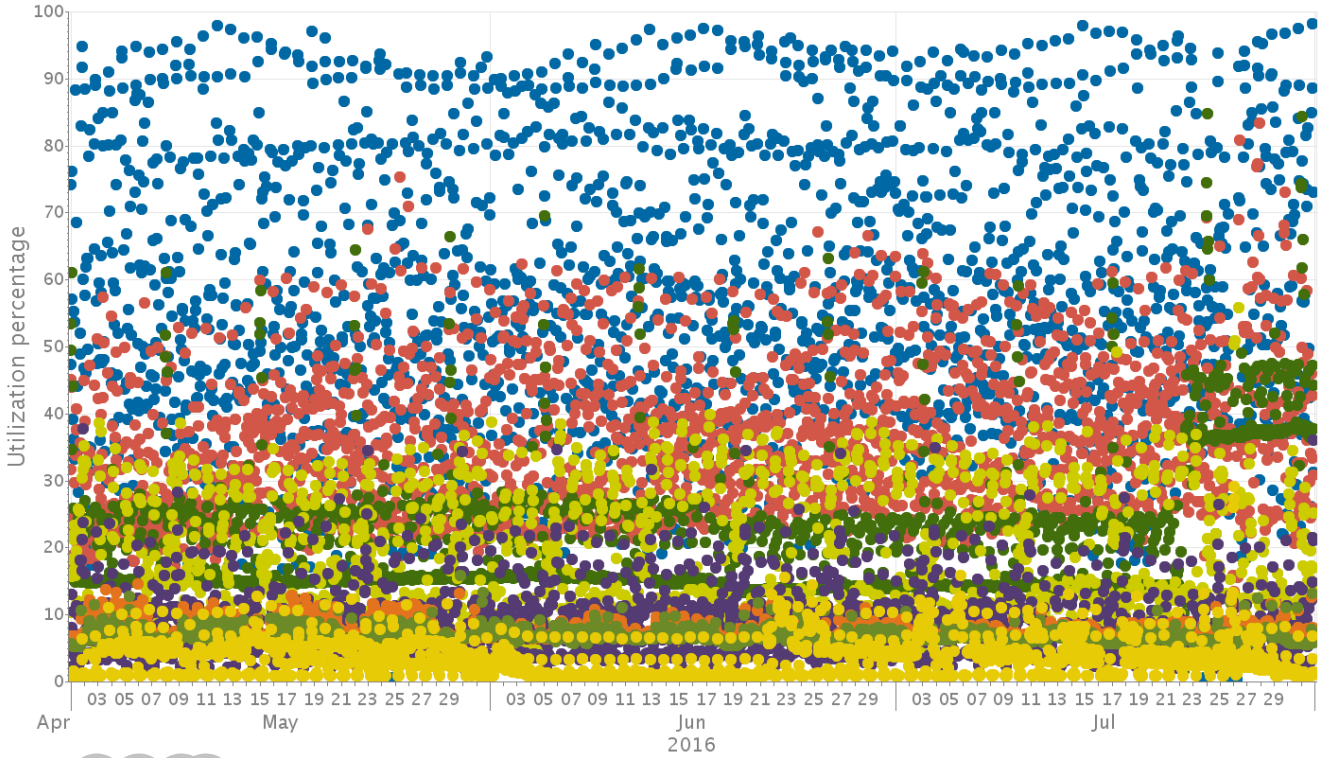
Comments on CPU Run Queue Length-(hourly)-2016-05-01-3 chart:
CPU Run Queue appears high (raw number) but this is a 24 core device. It is also stable and consistent.

CPU Utilization % from NMON (hourly)



- pwausxibncdb01p-CPU Utilization % from NMON [AVG]
- pwausxibncdb02p-CPU Utilization % from NMON [AVG]

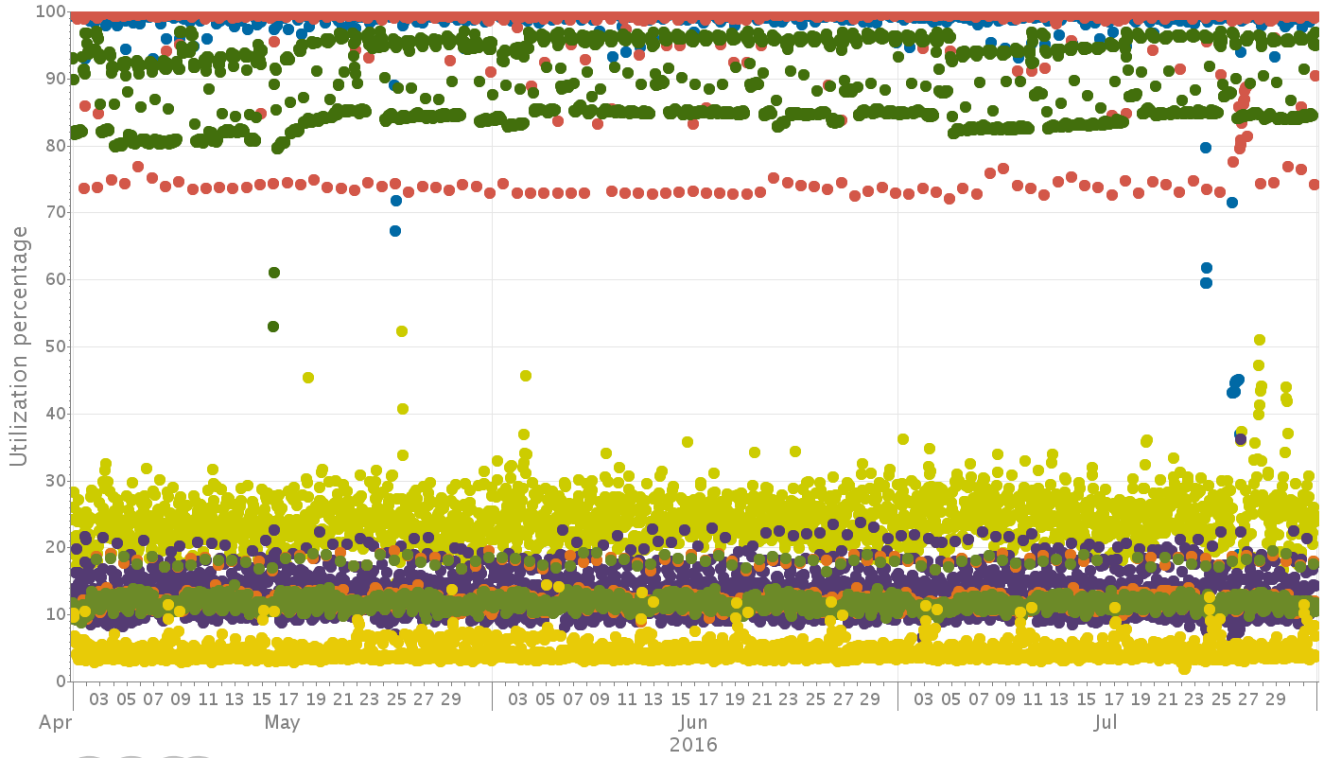
CPU Utilization % (hourly)



- pwausxbm...db01p-CPU Utilization % [AVG]
- pwauslbm...pp01-CPU Utilization % [AVG]
- pwauswbm...p02-CPU Utilization % [AVG]
- pwauslbm...pp02-CPU Utilization % [AVG]
- pwaussm...db01-CPU Utilization % [AVG]
- pwauslhm...xy03-CPU Utilization % [AVG]
- pwauslhm...xy04-CPU Utilization % [AVG]
- pwausxbm...db02p-CPU Utilization % [AVG]

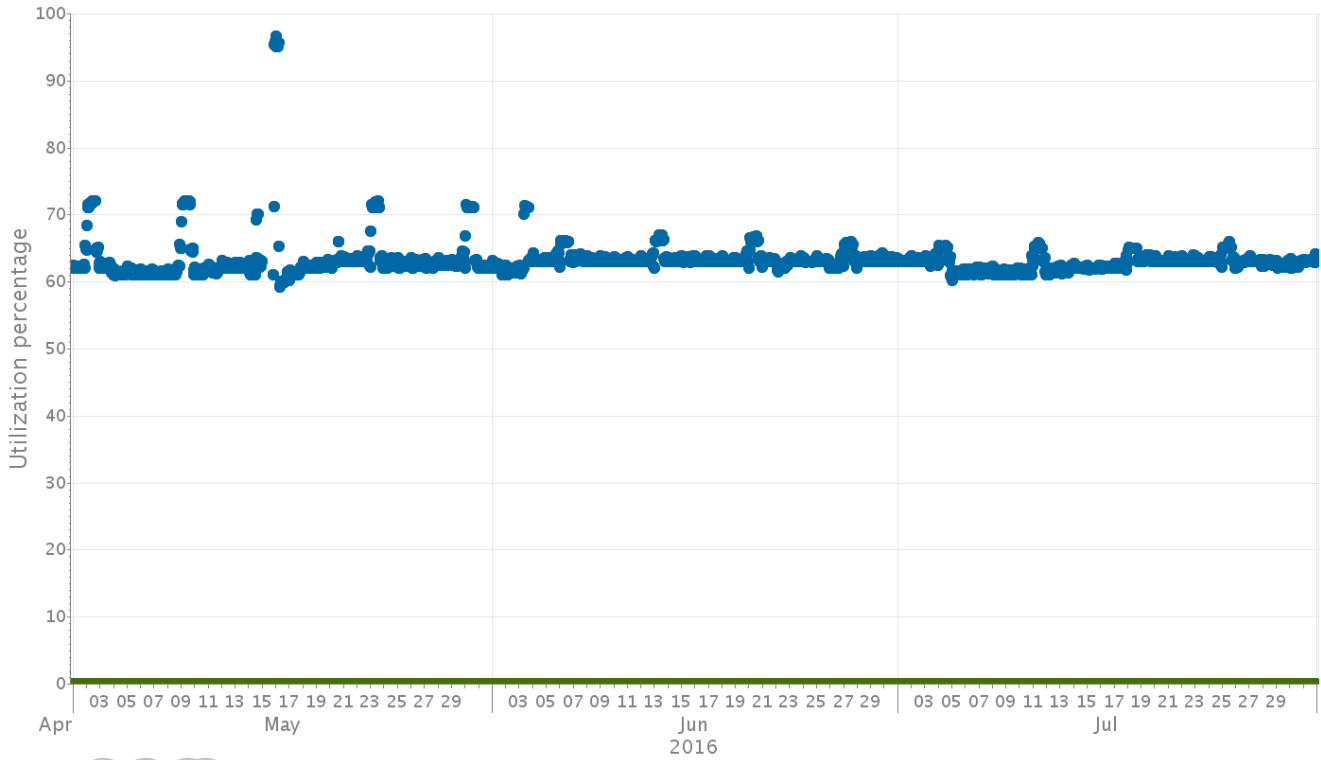
Comments on CPU Utilization %-(hourly)-2016-05-01-4 chart:
 There is a hint of constraint at around the 80% line which will need to be watched. At the moment there is no plans to address this.

Memory Utilization % (hourly)



- pwausxbj-cdb01p-Memory Utilization % [AVG]
- pwausxbj-cdb02p-Memory Utilization % [AVG]
- pwaussm-cdb01-Memory Utilization % [AVG]
- pwauslbr-app01-Memory Utilization % [AVG]
- pwauslbr-app02-Memory Utilization % [AVG]
- pwauslbr-xy04-Memory Utilization % [AVG]
- pwauslbr-xy03-Memory Utilization % [AVG]
- pwauswb-app02-Memory Utilization % [AVG]

Swap Space Utilization % (hourly)



- pwaussm db01-Swap Space Utilization % [AVG]
- pwausxbm db01p-Swap Space Utilization % [AVG]
- pwausxbm db02p-Swap Space Utilization % [AVG]

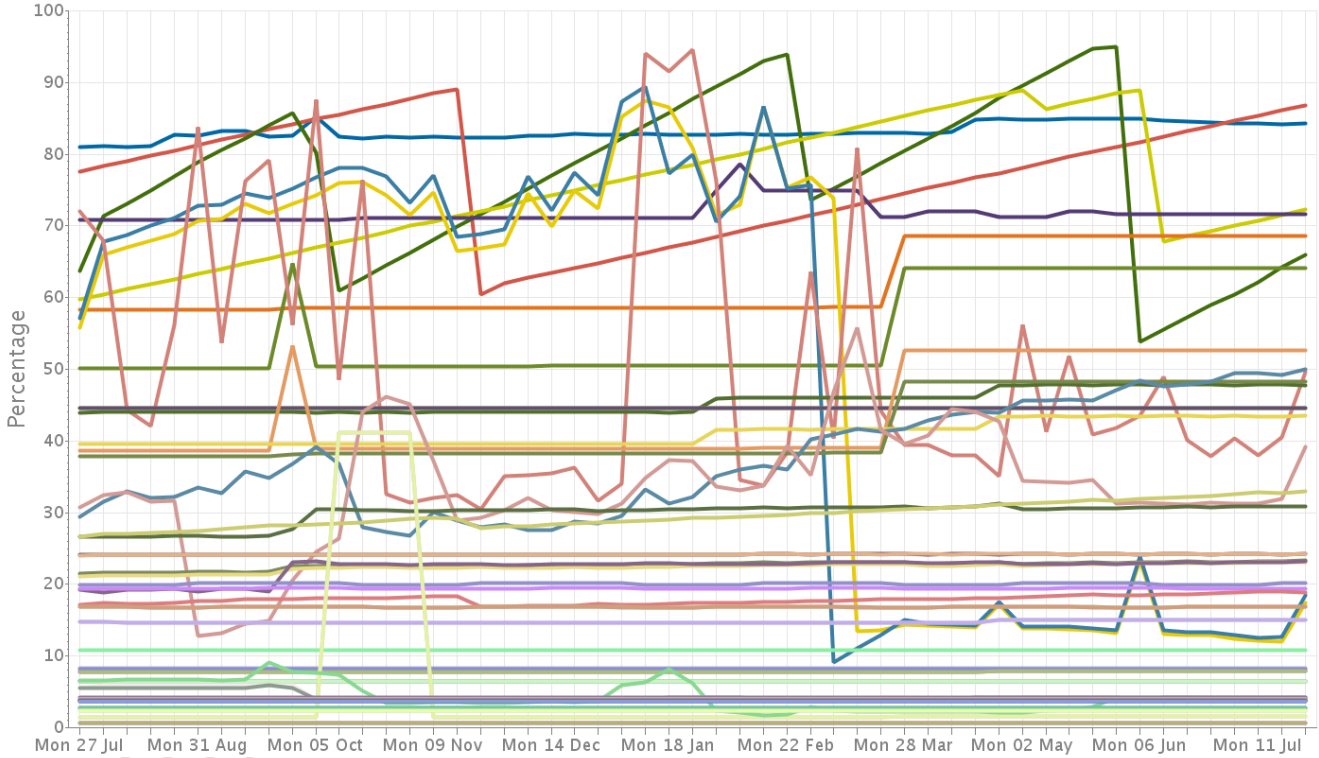
Comments on Swap Space Utilization %-(hourly)-2016-05-01-0 chart:

Swap utilization is somewhat concerning and the device is controlled by the monitoring team. We have point this condition out for them to address, or not.

Analysis: 12m Disk Used PCT - All

Used to show the total amount of disk space used by the application. Look for irregularities and any out of the ordinary behavior.

Disk Used Space % by Filesystem
(weekly)



- 01-Disk Used Space % by Filesystem-C\ [MAX]
- 01-Disk Used Space % by Filesystem-/VAR [MAX]
- 01-Disk Used Space % by Filesystem-D\ [MAX]
- 01-Disk Used Space % by Filesystem-/VAR [MAX]
- 01-Disk Used Space % by Filesystem-/HOME [MAX]
- 01-Disk Used Space % by Filesystem-/TMP [MAX]
- 03-Disk Used Space % by Filesystem-/TMP [MAX]
- 03-Disk Used Space % by Filesystem-/OPT/APACHE2/LOGS [MAX]
- 03-Disk Used Space % by Filesystem-/OPT/APACHE2/LOGS [MAX]
- 02-Disk Used Space % by Filesystem-/OPT/BMC/BCO [MAX]
- 01-Disk Used Space % by Filesystem-/USR [MAX]
- 01-Disk Used Space % by Filesystem-/OPT/ORACLE [MAX]
- 02-Disk Used Space % by Filesystem-/OPT/ORACLE [MAX]
- 01-Disk Used Space % by Filesystem-/TMP [MAX]
- 02-Disk Used Space % by Filesystem-/TMP [MAX]

... more series ...

The list of devices was limited (in chart options) to make room for the comments and keep them on the same page.

Analysis: Min Idle Workers

Minimum Idle Workers shows the average idle workers for an time slice vs. the minimum idle workers in the time slice. The goal is to ensure minimum idle workers do not go to zero.

When this application does not have a report it does not use JVMs. Therefore, idle workers are not applicable.

In the case of BCO there are JVMs, however, they are not managed or monitored by the Middleware Team, so there is no monitoring data for BCO JVMs.

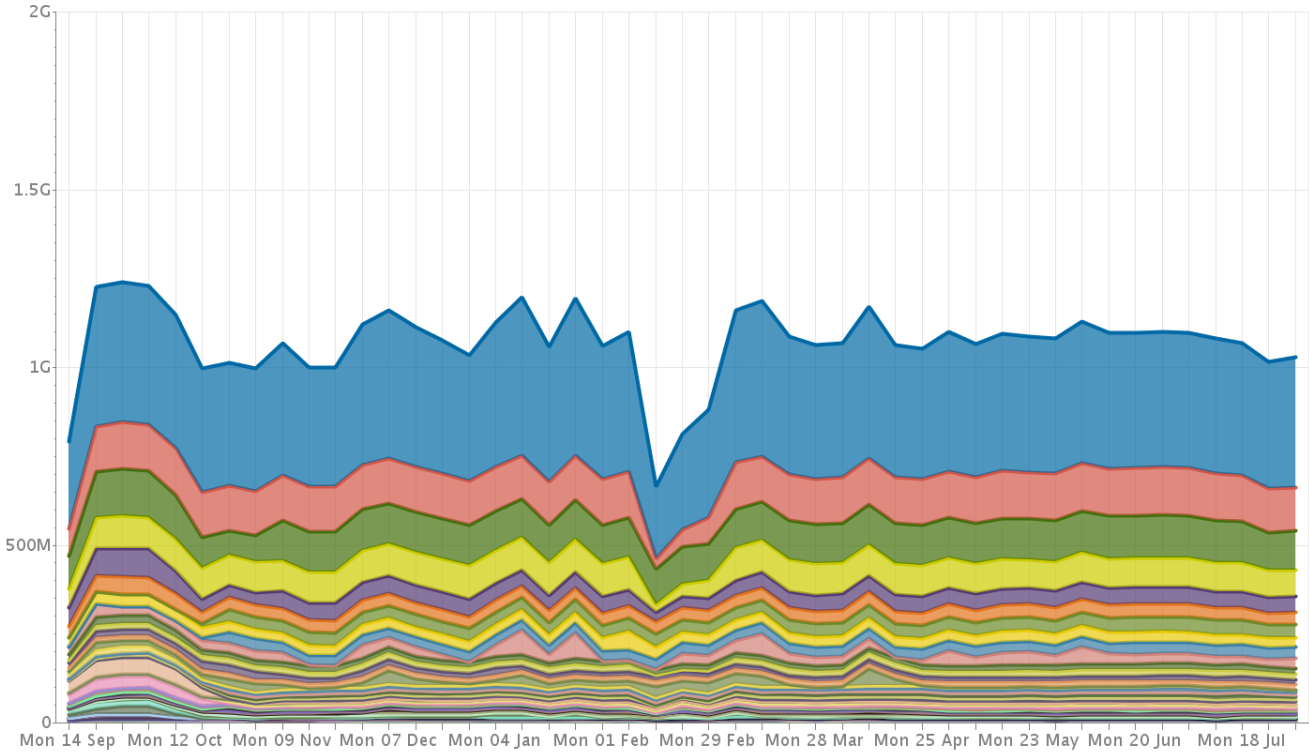
No data available for this analysis

Analysis: Business Drivers - WEEK

The list of business drivers remains essentially consistent over time.

Loaded time series rows

(weekly)



- DatasourcesLoad-Loaded time series rows-AGGREGATE [SUM]
- DatasourcesLoad-Loaded time series samples by datasource-ETL - HP OPENVIEW PERFORMANCE INSIGHT - A...
- DatasourcesLoad-Loaded time series-AGGREGATE [SUM]
- DatasourcesLoad-Loaded time series samples by datasource-ETL - HP OPENVIEW PERFORMANCE INSIGHT - A...
- DatasourcesLoad-Loaded configuration rows-AGGREGATE [SUM]
- DatasourcesLoad-Loaded BCO series by datasource-ETL - VMWARE - VCENTER EXTRACTOR SERVICE...
- DatasourcesLoad-Loaded BCO series by datasource-ETL - VMWARE - PWAUSWVMVC10 - PROD [SUM]...
- DatasourcesLoad-Loaded time series samples by datasource-ETL - VMWARE - VCENTER EXTRACTOR...
- DatasourcesLoad-Loaded time series samples by datasource-ETL - VMWARE - PWAUSWVMVC10 - PR...
- DatasourcesLoad-Loaded time series samples by datasource-ETL - CA WILY - PERFORMANCE METRI...
- DatasourcesLoad-Loaded BCO series by datasource-ETL - VMWARE - VCENTER EXTRACTOR SERVICE...
- DatasourcesLoad-Loaded configuration samples by datasource-ETL - HP OPENVIEW PERFORMANCE IN...
- DatasourcesLoad-Loaded time series samples by datasource-ETL - VMWARE - VCENTER EXTRACTOR...
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- DatasourcesLoad-Loaded time series samples by datasource-27... TRANSACTIONS (AZ) [SUM]
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- DatasourcesLoad-Loaded BCO series by datasource-ETL - VMWARE PFTWSWVMVC10 - PROD [SUM]
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- DatasourcesLoad-Loaded time series samples by datasource-RM... S OSC [SUM]
- DatasourcesLoad-Loaded BCO series by datasource-ETL - VMWARE - VCENTER EXTRACTOR SERVICE...
- DatasourcesLoad-Loaded time series samples by datasource-ETL - VMWARE PFTWSWVMVC10 - PRO...
- DatasourcesLoad-Loaded time series samples by datasource-B2... SERVICES ETL [SUM]
- DatasourcesLoad-Loaded time series samples by datasource-ETL - VMWARE - VCENTER EXTRACTOR...

... more series ...