

Real World Monitoring for PASOE

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Essentials

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About me...

- Over 30 years of Progress experience
- Always focused on operations - database, performance, BC/DR, installation & configuration
- Worked for Progress for some time
 - “Everything but legal and accounting”

- Avid BBQ Addict



Essentials

Essentials delivers cost-effective foundational IT solutions so you can focus on growing your business. It's what you need, when you need it – stabilized infrastructure, a rock-solid network, strengthened cybersecurity, and modernized business operations – all made simple and affordable.

We adapt best-in-class practices for small businesses, delivering greater simplicity, affordability, and efficiency, so you can focus on growing your company.

Essentials Team

- Who we are

Combined 158 years of OpenEdge DBA experience

- 5 onshore DBA's
- 2 offshore DBA's

- Migration Experience

- AIX to AWS – 1.5 TB database in ~ 4 hours
- Classic AppServer to PASOE – ongoing

Agenda

The PASOE Environment

- Monitoring PASOE
- Available Tools
- What and why we do what we do
- Additional Examples
- Summary
- Ancillary Items

The PASOE Environment

Application 1

- AWS ALB manages access
- Four Remote PASOE Servers
 - Two Instances per server
 - paslkw1- Read/Write (APSV and WEB)
 - paslkw2 - Read-Only (WEB)
- Two Database PASOE Instances
 - Paslkw1 & 2
 - Two instances = redundancy
 - Read/Write
 - Local Loopback
 - APSV & WEB

Application 2

- AWS ALB manages access
- Six Remote PASOE Servers
 - One Instance per server – pasedm1
 - Read/Write
 - REST

Agenda

- The PASOE Environment
- Monitoring PASOE
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- What and why we do what we do
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- Summary
- Ancillary Items

Monitoring PASOE

- It is imperative that you monitor your PASOE environment and resources
- Without monitoring you cannot
 - Debug application challenges
 - Tune for optimal performance
 - Support the business
- PASOE is not your classic appserver
 - Some things are fundamentally different
 - Although it has been out for quite a while...
 - Sometimes it doesn't do what you think it should!

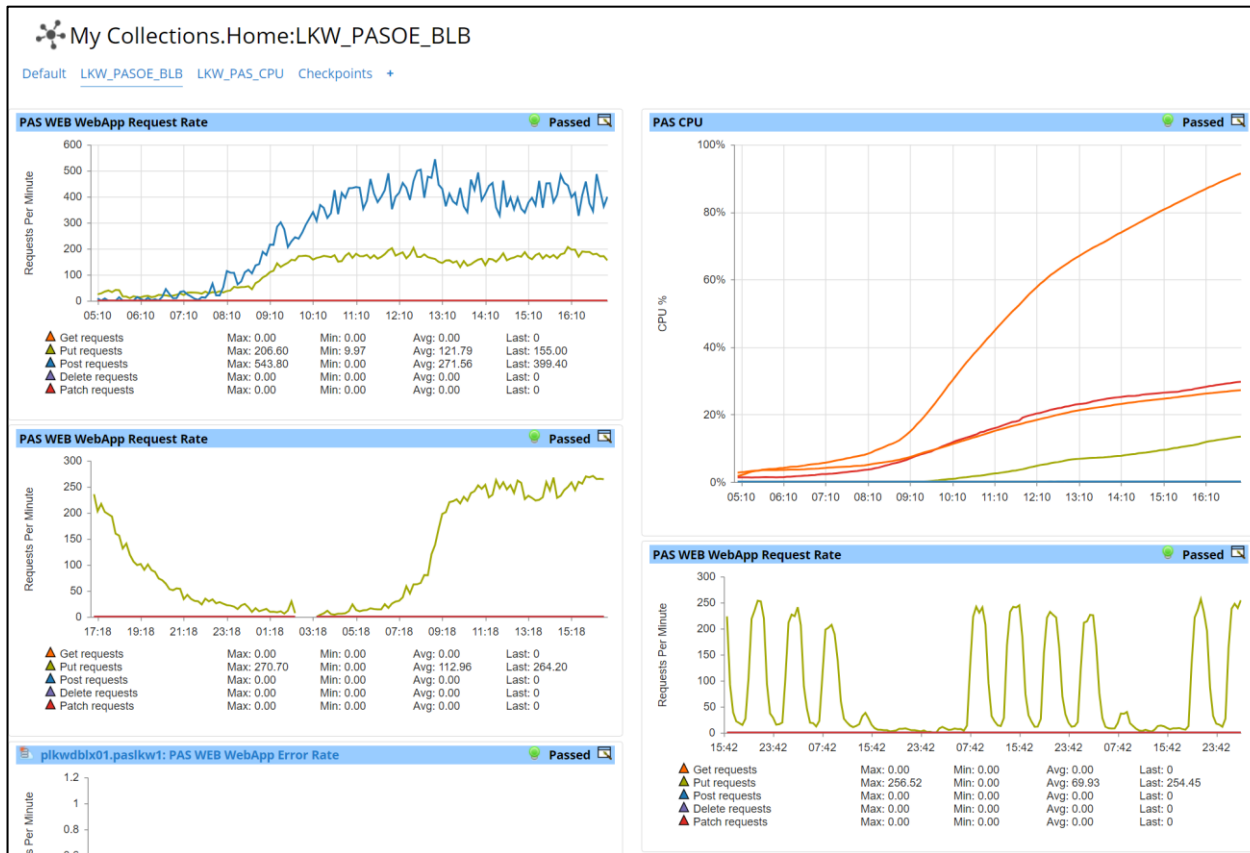
Agenda

- The PASOE Environment
- Monitoring PASOE
- Available Tools
- What and why we do what we do
- Additional Examples
- Summary
- Ancillary Items

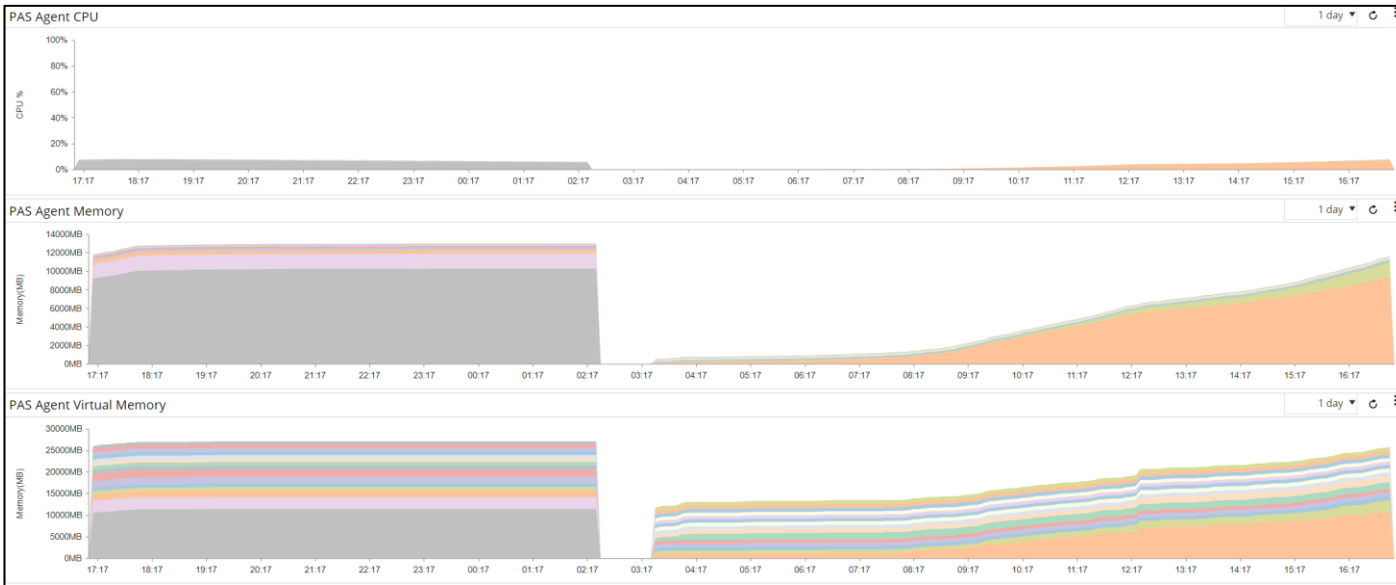
Available Tools

- OpenEdge Management
- Swagger
- Iceburg
- ProTop (RT & Portal)
- MDBA Tools
- **JConsole**
- Command Line
 - REST (AKA Curl)
 - OEJMX
- 3rd Party Tools

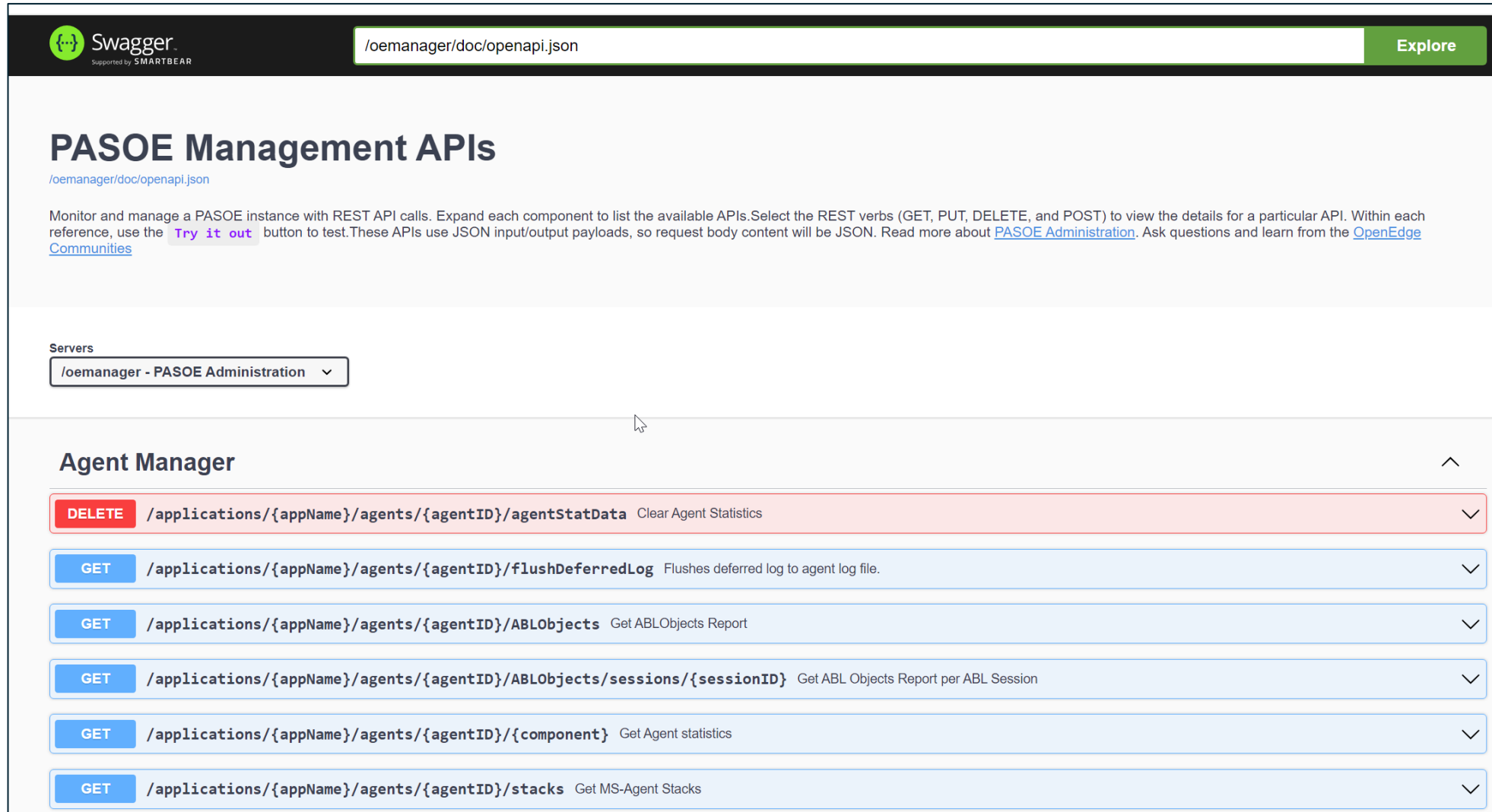
OpenEdge Management (1)



OpenEdge Management (2)



Available Tools – Swagger (1)



The screenshot shows the Swagger UI interface for the PASOE Management APIs. At the top, the Swagger logo is on the left, and the URL `/oemanager/doc/openapi.json` is in the center, with an **Explore** button on the right. Below the header, the title **PASOE Management APIs** is displayed, followed by the URL `/oemanager/doc/openapi.json`. A descriptive paragraph explains that the APIs are used to monitor and manage a PASOE instance via REST calls, listing supported methods (GET, PUT, DELETE, POST) and mentioning that request bodies are JSON. A **Try it out** button is highlighted. Below the text, a **Servers** dropdown menu is set to `/oemanager - PASOE Administration`. The main content area is titled **Agent Manager** and contains a list of six API endpoints, each with a method label (DELETE or GET), a path with variables, and a brief description. The endpoints are: 1) DELETE `/applications/{appName}/agents/{agentID}/agentStatData` (Clear Agent Statistics), 2) GET `/applications/{appName}/agents/{agentID}/flushDeferredLog` (Flushes deferred log to agent log file), 3) GET `/applications/{appName}/agents/{agentID}/ABLObject`s (Get ABLObject Report), 4) GET `/applications/{appName}/agents/{agentID}/ABLObject/sessions/{sessionID}` (Get ABL Objects Report per ABL Session), 5) GET `/applications/{appName}/agents/{agentID}/{component}` (Get Agent statistics), and 6) GET `/applications/{appName}/agents/{agentID}/stacks` (Get MS-Agent Stacks). Each entry has a dropdown arrow on the right.

Swagger
Supported by SMARTBEAR

`/oemanager/doc/openapi.json` **Explore**

PASOE Management APIs

`/oemanager/doc/openapi.json`

Monitor and manage a PASOE instance with REST API calls. Expand each component to list the available APIs. Select the REST verbs (GET, PUT, DELETE, and POST) to view the details for a particular API. Within each reference, use the **Try it out** button to test. These APIs use JSON input/output payloads, so request body content will be JSON. Read more about [PASOE Administration](#). Ask questions and learn from the [OpenEdge Communities](#)

Servers
`/oemanager - PASOE Administration` ▾

Agent Manager

- DELETE** `/applications/{appName}/agents/{agentID}/agentStatData` Clear Agent Statistics ▾
- GET** `/applications/{appName}/agents/{agentID}/flushDeferredLog` Flushes deferred log to agent log file. ▾
- GET** `/applications/{appName}/agents/{agentID}/ABLObject`s Get ABLObject Report ▾
- GET** `/applications/{appName}/agents/{agentID}/ABLObject/sessions/{sessionID}` Get ABL Objects Report per ABL Session ▾
- GET** `/applications/{appName}/agents/{agentID}/{component}` Get Agent statistics ▾
- GET** `/applications/{appName}/agents/{agentID}/stacks` Get MS-Agent Stacks ▾

Available Tools – Swagger (2)

GET /applications/{AppName}/webapps/{WebAppName}/transports/web/metrics Get WEB Transport metrics

Get the WEB Transport metrics for the given OEABL WebApp

Parameters Cancel

Name	Description
AppName * required string (path)	ABL Application name
<input type="text" value="FMLSAPI"/>	
WebAppName * required string (path)	OEABL WebApp name
<input type="text" value="fmlsapi"/>	

Execute

Responses

Code	Description	Links
200	Successfully retrieved Web Transport metrics	No links
500	Unable to retrieve WEB Transport metrics	No links

Available Tools – Swagger (3)

Responses

Curl

```
curl -X 'GET' \  
  'https://ulkwas1x01:8286/oemanager/applications/FMLSAPI/webapps/fmlsap/transport/web/metrics' \  
  -H 'accept: */*'
```

Request URL

```
https://ulkwas1x01:8286/oemanager/applications/FMLSAPI/webapps/fmlsap/transport/web/metrics
```

Server response

Code	Details
200	<p>Response body</p> <pre>{ "operation": "GET WEB TRANSPORT STATISTICS", "outcome": "SUCCESS", "result": { "patchErrors": 0, "postErrors": 0, "failedServletRequests": 3, "maxABLConnectTime": 28, "stdABLDevConnectTime": 0, "getRequests": 0, "optionsErrors": 0, "connectRequests": 1, "putRequests": 5218, "getErrors": 0, "deleteRequests": 0, "minABLProcessingTime": 17, "maxABLProcessingTime": 92788, "stdDevABLProcessingTime": 3837000499, "minABLConnectTime": 28, "patchRequests": 0, "ablConnectErrors": 0, "postRequests": 0, "successfulServletRequests": 5214, "avgABLProcessingTime": 2743, "avgABLConnectTime": 28, "optionsRequests": 0, "traceRequests": 0, } }</pre> <p>Response headers</p> <pre>cache-control: private connection: keep-alive content-type: application/vnd.progress+json date: Wed, 11 Sep 2024 15:32:20 GMT expires: Thu, 01 Jan 1970 00:00:00 GMT keep-alive: timeout=60 strict-transport-security: max-age=31536000 ; includeSubDomains transfer-encoding: chunked x-content-type-options: nosniff x-frame-options: DENY x-xss-protection: 1; mode=block</pre>

Responses

Code	Description	Links
200	Successfully retrieved Web Transport metrics	No links

Available Tools - Iceberg

```

Fri Aug 23 14:09:40 EDT 2024 PASOE instance pas1kw1 is running on plkwas1x01
#####
AGENT ID: @BRRKZ08SvSpmv7z1qa
AYW0XqGrc2VMKA091TXw
och5pji1wQWuNz3-a01muhw
jBRK1QDR80eytVvrfpEmbW
--TloVt23j340vPfHig
#####
Buildfile: /home/root/monitor/iceberg/build.xml

status:
[echo] Code Release: 2021-08-03T10:32:35.296
[echo] DLC Home: /var/dlc
[echo] openEdge version: 12.2.14
[PCTRun] starting output to file: status_fm1sapi_2024-08-23T14_09_44.598-04.00.txt ...
[PCTRun] Utility Runtime: 12.2.14.0.1492
[PCTRun] Report Executed: 2024-08-23T14:09:44.599-04:00
[PCTRun] PASOE Instance: http://localhost:8205
[PCTRun] ABL Application Information [FMLSAPI - v12.2.14 ( 2024-02-02 )]
[PCTRun] WebApp: fmlsapi
[PCTRun] APSV: DISABLED
[PCTRun] SOAP: DISABLED
[PCTRun] REST: ENABLED
[PCTRun] WEB: ENABLED
[PCTRun] Manager Properties
[PCTRun] Maximum Agents: 10
[PCTRun] Minimum Agents: 5
[PCTRun] Initial Agents: 5
[PCTRun] Max. Connections/Agent: 10
[PCTRun] Max. ABL Sessions/Agent: 10
[PCTRun] Idle Conn. Timeout: 300,000 ms (00:05:00.000)
[PCTRun] Idle Session Timeout: 1,800,000 ms (00:30:00.000)
[PCTRun] Idle Agent Timeout: 1,800,000 ms (00:30:00.000)
[PCTRun] Idle Resource Timeout: 0 ms (00:00:00.000)
[PCTRun] Conn. wait Timeout: 3,000 ms (00:00:03.000)
[PCTRun] Request wait Timeout: 15,000 ms (00:00:15.000)
[PCTRun] Initial Sessions/Agent: 5
[PCTRun] Min. Avail. sess/Agent: 5
[PCTRun] > Agent PID 28060: AVAILABLE
[PCTRun] Est. Agent Lifetime: 11:27:39.394
[PCTRun] DynMax ABL Sessions: 10
[PCTRun] Total ABL Sessions: 10
[PCTRun] Avail ABL Sessions: 1
[PCTRun] Open Connections: 10
[PCTRun] Overhead Memory: 93,270 KB
[PCTRun] SESSION ID STATE STARTED LIFETIME SESS. MEMORY BOUND/ACTIVE CLIENT SESSION
[PCTRun] 19 ACTIVE 08/23/2024 12:30:29.140+04:00 01:39:15.527 188,821 KB -
[PCTRun] 20 ACTIVE 08/23/2024 12:30:29.202+04:00 01:39:15.465 179,701 KB -
[PCTRun] 21 ACTIVE 08/23/2024 12:30:29.218+04:00 01:39:15.465 167,117 KB -
[PCTRun] 22 ACTIVE 08/23/2024 12:30:29.250+04:00 01:39:15.465 167,117 KB -
[PCTRun] 23 ACTIVE 08/23/2024 12:30:29.259+04:00 01:39:15.465 167,117 KB -
[PCTRun] 24 ACTIVE 08/23/2024 12:30:29.283+04:00 01:39:15.465 167,117 KB -
[PCTRun] 25 IDLE 08/23/2024 12:30:29.908+04:00 01:39:16.238 1,805 KB -
[PCTRun] 26 ACTIVE 08/23/2024 12:30:31.026+04:00 01:39:16.238 1,805 KB -
[PCTRun] 27 ACTIVE 08/23/2024 12:30:48.644+04:00 01:39:16.238 1,805 KB -
[PCTRun] 28 ACTIVE 08/23/2024 12:32:42.729+04:00 01:39:16.238 1,805 KB -
[PCTRun] Active Agent-Sessions: 9 of 10 (90% Busy)
[PCTRun] Utilized Agent-Sessions: 10 of 10 (>1,806 KB)
  
```

```

[PCTRun] Client HTTP Sessions: 21
[PCTRun] STATE SESS STATE BOUND LAST ACCESS / STARTED ELAPSED TIME SESSION MODEL ADAPTER SESSION ID REQUEST ID
[PCTRun] READY RESERVED NO 2024-08-23T14:09:29.884-0400 00:00:14.806 SESSION_FREE LyqrvAVDrXui5r1DngigIQ
[PCTRun] READY RESERVED NO 2024-08-23T11:12:13.636-0400 02:57:31.054 SESSION_FREE arHl3pt8TjgiA1H-z2a4pg
[PCTRun] READY RESERVED NO 2024-08-23T14:09:44.445-0400 00:00:00.245 SESSION_FREE lDPT5HqkRjohDxvfnPZoug
[PCTRun] RUNNING RESERVED NO 2024-08-23T14:09:42.907-0400 00:00:01.783 SESSION_FREE WEB i8NO_kiq8Ycr16iegvrng fmlsapi:w:000116bd
[PCTRun] ClientConn: 10.199.13.8 2024-08-23T14:09:42.907-0400 00:00:01.783 Proc: Progress.web.InternalWebHandler:Handler
[PCTRun] AgentConn: PID 28060 RESERVED Agent: localhost/127.0.0.1:62002 Local: /127.0.0.1:54852
[PCTRun] RUNNING RESERVED NO 2024-08-23T14:09:42.092-0400 00:00:02.598 SESSION_FREE WEB B5j9ozDTS32968uovPP1A fmlsapi:w:000116bc
[PCTRun] ClientConn: 10.199.13.8 2024-08-23T14:09:42.092-0400 00:00:02.598 Proc: Progress.web.InternalWebHandler:Handler
[PCTRun] AgentConn: PID 28060 RESERVED Agent: localhost/127.0.0.1:62002 Local: /127.0.0.1:55314
[PCTRun] READY RESERVED NO 2024-08-23T14:09:23.965-0400 00:00:20.725 SESSION_FREE babxc6tQcvdUwHXMyBvq
[PCTRun] RUNNING RESERVED NO 2024-08-23T14:08:48.243-0400 00:00:56.447 SESSION_FREE WEB xxspH2jgSw6j_oUkwTEciA fmlsapi:w:00011605
[PCTRun] ClientConn: 10.199.13.8 2024-08-23T14:08:48.243-0400 00:00:56.447 Proc: Progress.web.InternalWebHandler:Handler
[PCTRun] AgentConn: PID 28060 RESERVED Agent: localhost/127.0.0.1:62002 Local: /127.0.0.1:44502
[PCTRun] RUNNING RESERVED NO 2024-08-23T14:08:13.944-0400 00:01:30.746 SESSION_FREE WEB l7DQ4Wcte2YeeOMuYvbg fmlsapi:w:0001157a
[PCTRun] ClientConn: 10.199.13.8 2024-08-23T14:08:13.943-0400 00:01:30.747 Proc: Progress.web.InternalWebHandler:Handler
[PCTRun] AgentConn: PID 28060 RESERVED Agent: localhost/127.0.0.1:62002 Local: /127.0.0.1:44516
[PCTRun] READY RESERVED NO 2024-08-23T14:06:40.266-0400 00:03:04.424 SESSION_FREE mmC4P-_FRDke1iPkjJQa-A
[PCTRun] READY RESERVED NO 2024-08-23T13:36:22.412-0400 00:33:22.278 SESSION_FREE JyJbsaZoSr-Fckv3dZzOjw
[PCTRun] READY RESERVED NO 2024-08-23T14:06:41.375-0400 00:03:03.315 SESSION_FREE Gwr6eH50saak4CFftumfcg
[PCTRun] RUNNING RESERVED NO 2024-08-23T14:09:44.365-0400 00:00:00.325 SESSION_FREE WEB 0jmc4gtR6f8jEqmQDsKta fmlsapi:w:000116c4
[PCTRun] ClientConn: 10.199.13.8 2024-08-23T14:09:44.364-0400 00:00:00.326 Proc: Progress.web.InternalWebHandler:Handler
[PCTRun] AgentConn: PID 28060 RESERVED Agent: localhost/127.0.0.1:62002 Local: /127.0.0.1:58364
[PCTRun] RUNNING RESERVED NO 2024-08-23T14:09:36.226-0400 00:00:08.464 SESSION_FREE WEB 2p0eUJupR2GvtgJahkChw fmlsapi:w:000116a5
[PCTRun] ClientConn: 10.199.13.8 2024-08-23T14:09:36.225-0400 00:00:08.465 Proc: Progress.web.InternalWebHandler:Handler
[PCTRun] AgentConn: PID 28060 RESERVED Agent: localhost/127.0.0.1:62002 Local: /127.0.0.1:55318
[PCTRun] RUNNING RESERVED NO 2024-08-23T14:09:44.284-0400 00:00:00.406 SESSION_FREE WEB 8i1c_pnbSsw7zdCmbghTg fmlsapi:w:000116c3
[PCTRun] ClientConn: 10.199.8.199 2024-08-23T14:09:44.284-0400 00:00:00.406 Proc: Progress.web.InternalWebHandler:Handler
[PCTRun] AgentConn: PID 28060 RESERVED Agent: localhost/127.0.0.1:62002 Local: /127.0.0.1:44510
[PCTRun] READY RESERVED NO 2024-08-23T11:12:13.493-0400 02:57:31.197 SESSION_FREE TBI7z0ocShaIRvDUpubhZg
[PCTRun] READY RESERVED NO 2024-08-23T13:15:00.161-0400 00:54:44.529 SESSION_FREE MDpmykPtSyivdMOajYl6Vg
[PCTRun] RUNNING RESERVED NO 2024-08-23T14:08:58.555-0400 00:00:46.135 SESSION_FREE WEB lweUA9hwGgKaoJ6rKxBo5A fmlsapi:w:0001162a
[PCTRun] ClientConn: 10.199.13.8 2024-08-23T14:08:58.555-0400 00:00:46.135 Proc: Progress.web.InternalWebHandler:Handler
[PCTRun] AgentConn: PID 28060 RESERVED Agent: localhost/127.0.0.1:62002 Local: /127.0.0.1:38684
[PCTRun] READY RESERVED NO 2024-08-23T11:12:13.093-0400 02:57:31.597 SESSION_FREE 4F75N-xVQneClFAVJjsSTA
[PCTRun] WEB HNSFXqgs5jBMB8-SR3Gwg fmlsapi:w:00011647
[PCTRun] ss.Web.InternalWebHandler:Handler
358
[PCTRun] ONEVBp1TtZcug7od2NhFQw
[PCTRun] WMI7j5vshyqniL0wBew1w

[PCTRun] SESSION ID STATE STARTED LIFETIME SESS. MEMORY BOUND/ACTIVE CLIENT SESSION
[PCTRun] 11 IDLE 08/23/2024 12:30:28.412+04:00 01:39:16.255 1,805 KB -
[PCTRun] 12 IDLE 08/23/2024 12:30:28.418+04:00 01:39:16.249 1,805 KB -
[PCTRun] 13 IDLE 08/23/2024 12:30:28.422+04:00 01:39:16.245 1,805 KB -
[PCTRun] 14 IDLE 08/23/2024 12:30:28.424+04:00 01:39:16.238 1,805 KB -
[PCTRun] 15 IDLE 08/23/2024 12:30:28.429+04:00 01:39:16.238 1,805 KB -
[PCTRun] Active Agent-Sessions: 0 of 5 (0% Busy)
[PCTRun] Utilized Agent-Sessions: 0 of 5 (<1,810 KB)
[PCTRun] Approx. Agent Memory: 19,987 KB

[PCTRun] Session Manager Metrics (Count+Time)
[PCTRun] # Requests to Session: 71,355
[PCTRun] # Agent Responses Read: 214,088 (0 Errors)
[PCTRun] Agent Read Time (Mn, Mx, AV): 00:00:00.000 / 00:00:00.000 / 00:00:00.000
[PCTRun] # Agent Requests Written: 142,730 (0 Errors)
[PCTRun] Concurrent Connected Clients: 9 (Max: 21)
[PCTRun] Tot. Reserve ABL Session Wait: 00:00:00.551
[PCTRun] # Reserve ABL Session Waits: 0
[PCTRun] Avg. Reserve ABL Session Wait: 00:00:00.000
[PCTRun] Max. Reserve ABL Session Wait: 00:00:00.001
[PCTRun] # Reserve ABL Session Timeout: 0
  
```


Available Tools – ProTop RT

```

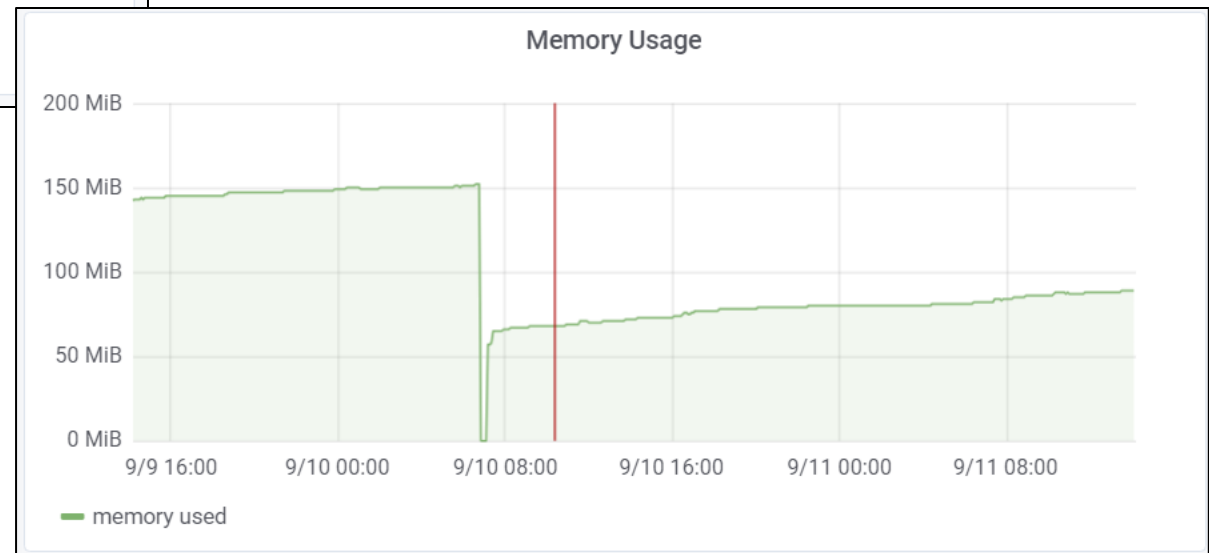
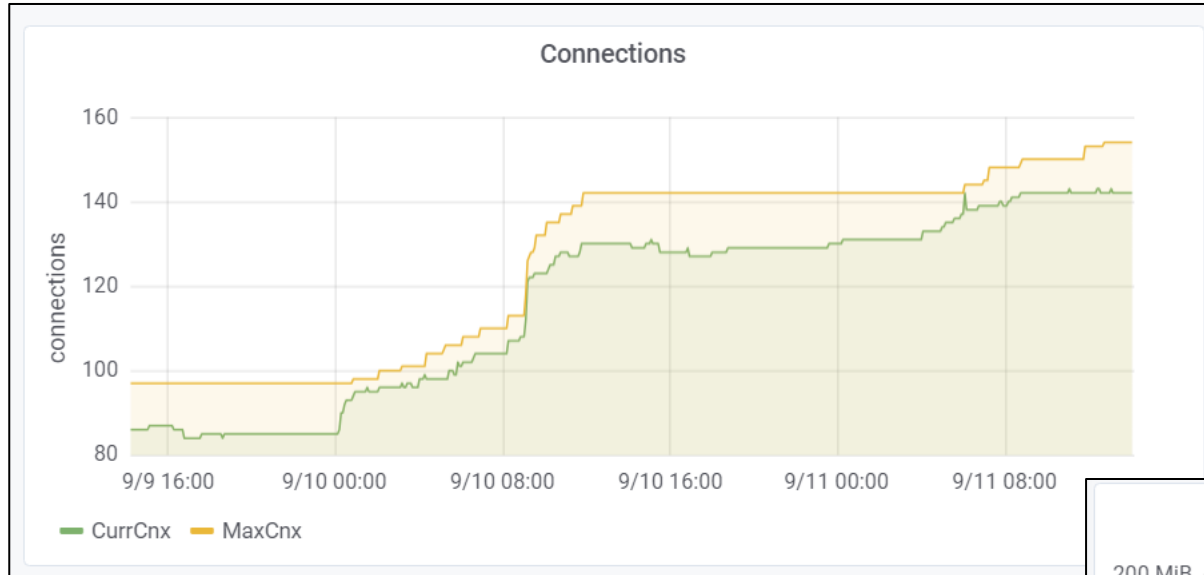
2024/08/23                               ProTop RT 325                               16:58:55
ctrlz                                     /lkw/ctrlz                               plkwdbl01.fhmc.local
j Zxbj

Hit%           100.00           Commits:       1095           Examined:      455           APW Writes:    158           DB UpTime:    14:19           Connections:  2507
Log Reads:    1450210           Undos:         0           New RM:        377           APW Write%    100           Backup Age:   14:21           -n %          28
Log Writes:   8611           Lock Tbl HWM: 13485           From RM:       376           Bufs Scanned: 5380           Brokers:      3
OS Reads:     12           Curr # Locks: 568           RM Locked:    299           APW Scan Wrs: 16           Oldest TRX:  00:08:50           SQL Servers:  1
OS Writes:    158           Lock Tbl%     0.95%         Front2Bk:     13           APW Q Wrts:  0           APW Q Wrts:   0           Curr BIClstr: 26484           SQL Clients:  0
LogRd/LogWr: 168.42           Rec Lk/s:     7691           Mod Bufs:     34937          Chkpt Q Wrts: 142           Old BIClstr: 26482           4gl Servers:  598
LogRd/RecRd: 2.11           Lk Dura (ms): 7.67           Evicted:      0           Flushed Bufs: 0           Num BIClstrs: 2           4gl RemCnx:  1230
Rec Reads:    688276           User Exp SHM: 340373          Chkpt Len:    0           BI MB Used:   500           BI MB Used:   500           App Server:   0
Idx Reads:    686741           BogoMIPS:     8.00           Notes:        10336          10336           Curr AI Ext:  80 of 200           Web Speed:    0
Rec Creates:  374           Random IO (ms): 0.42           Wrts to Log:  63           63           Curr Seq#:    23480           Local:        6
Idx Creates:  2020           Sync IO (MB/s): 0.00           BIW/AIW Wrts: 41           62           Empty AI:     199           Batch:        16
Rec Updates:  692           User Exp SHM: 340373          BIW/AIW Wrt% 66           99           Full AI:      0           BIW/AIW/WDOG: 1 1 1
Rec Deletes:  313           Partial Wr:   0           0           Locked AI:    0           AI Mgmt:      1
Idx Deletes:  1819           Busy Waits:  1           0           pica Used:   0           APWs:         10
Idx Blk Spl:  1           Empty Wts:   0           0           pica Used%   0.00           RPLA/RPLS:   0 1
Rec Waits:    1           User Exp SHM: 340373          BIW/AIW Wrt% 66           99           Full AI:      0           Utilities:    0
Resrc Waits:  6           User Exp SHM: 340373          BIW/AIW Wrt% 66           99           Full AI:      0           Utilities:    0
Latch Waits:  2           User Exp SHM: 340373          BIW/AIW Wrt% 66           99           Full AI:      0           Utilities:    0
Latch Reqs:  4327854           User Exp SHM: 340373          BIW/AIW Wrt% 66           99           Full AI:      0           Utilities:    0
Latch/logRd:  2.98           User Exp SHM: 340373          BIW/AIW Wrt% 66           99           Full AI:      0           Utilities:    0

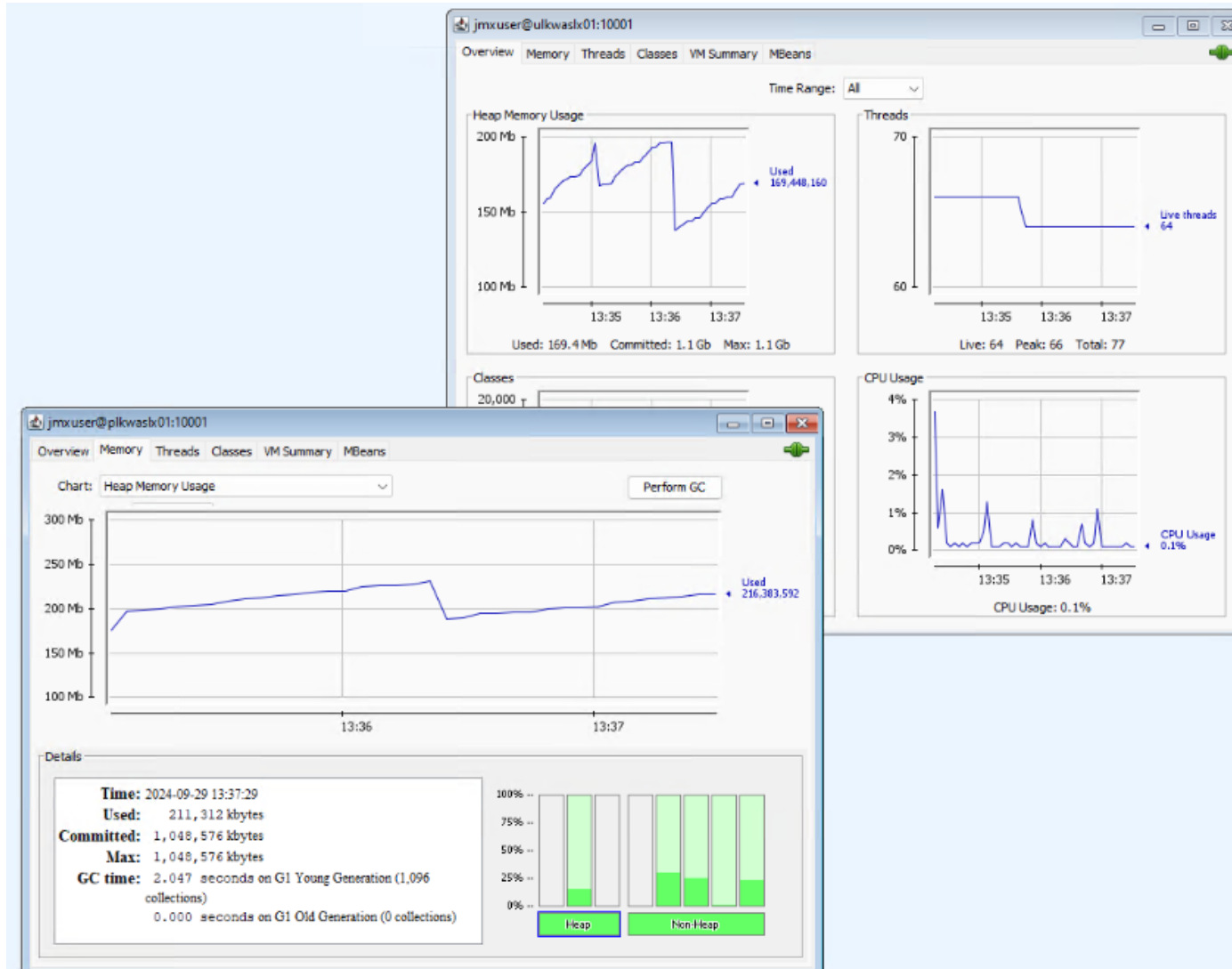
<j> PASOE Information
Instance Name  App Name      Status  Memory (MB)  Min  Max  Avg  CurrCnx  MaxCnx  CurrSess  Requests  Reads  Writes  RdErr  WrErr  Waits  TMO
lx01paslkw2   FMLSAPI      200    995.00      2.00  86.00  28.43  0  19  35  11  33  22  0  0  0  0
lx01paslkw2   paslkw2      200    25.00      1.00  1.00  1.00  0  0  25  0  0  0  0  0  0  0
lx02paslkw2   FMLSAPI      200    909.00      2.00  87.00  27.55  0  14  33  11  32  22  0  0  0  0
lx02paslkw2   paslkw2      200    25.00      1.00  1.00  1.00  0  0  25  0  0  0  0  0  0  0
lx03paslkw2   FMLSAPI      200    986.00      2.00  90.00  28.17  1  15  35  11  33  22  0  0  0  0
lx03paslkw2   paslkw2      200    25.00      1.00  1.00  1.00  0  0  25  0  0  0  0  0  0  0
lx04paslkw1   FMLSAPI      200    4638.00     2.00  465.00  125.35  4  22  37  3  10  6  0  0  0  0
lx04paslkw1   FMLSMSG     200    79.00      2.00  3.00  2.39  4  23  33  3  7  8  0  0  0  0
lx04paslkw1   paslkw1     200    50.00      2.00  2.00  2.00  0  0  25  0  0  0  0  0  0  0
lx04paslkw2   FMLSAPI      200    958.00      2.00  86.00  27.37  3  17  35  11  32  22  0  0  0  0
lx04paslkw2   paslkw2     200    25.00      1.00  1.00  1.00  0  0  25  0  0  0  0  0  0  0

```

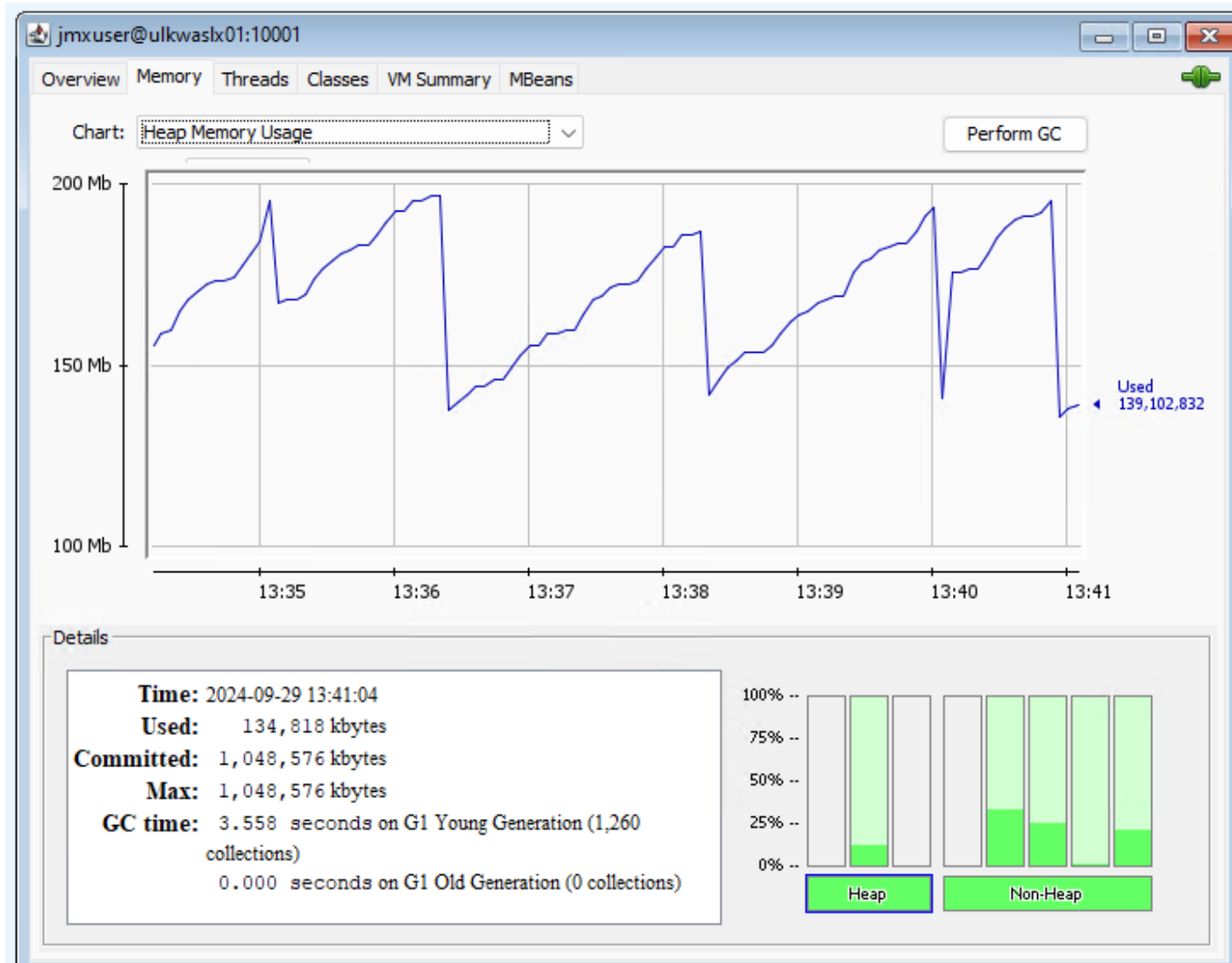
Available Tools – ProTop Dashboard



Available Tools – JConsole



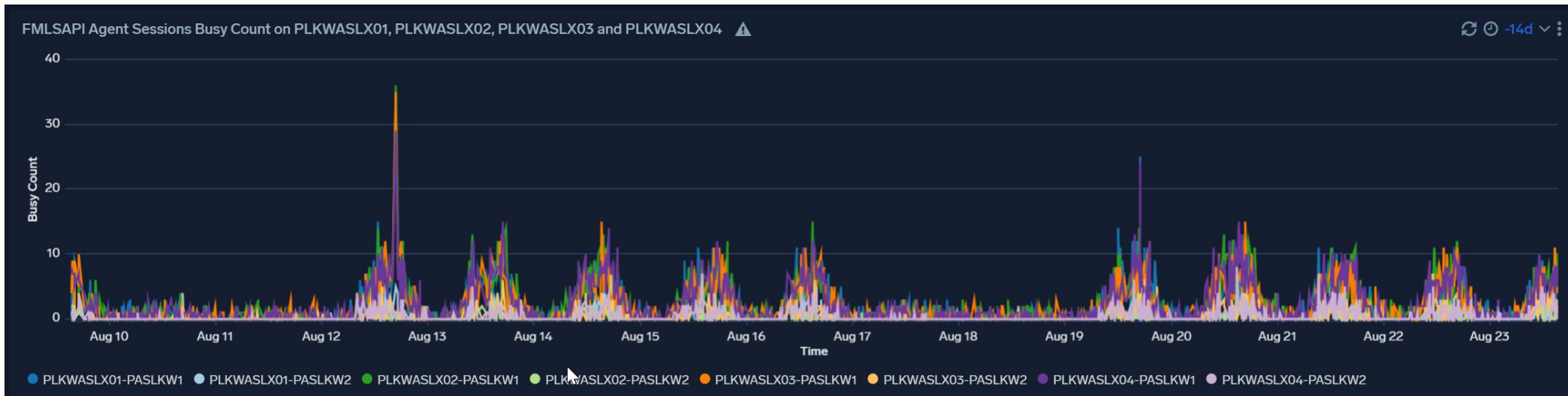
Available Tools – JConsole



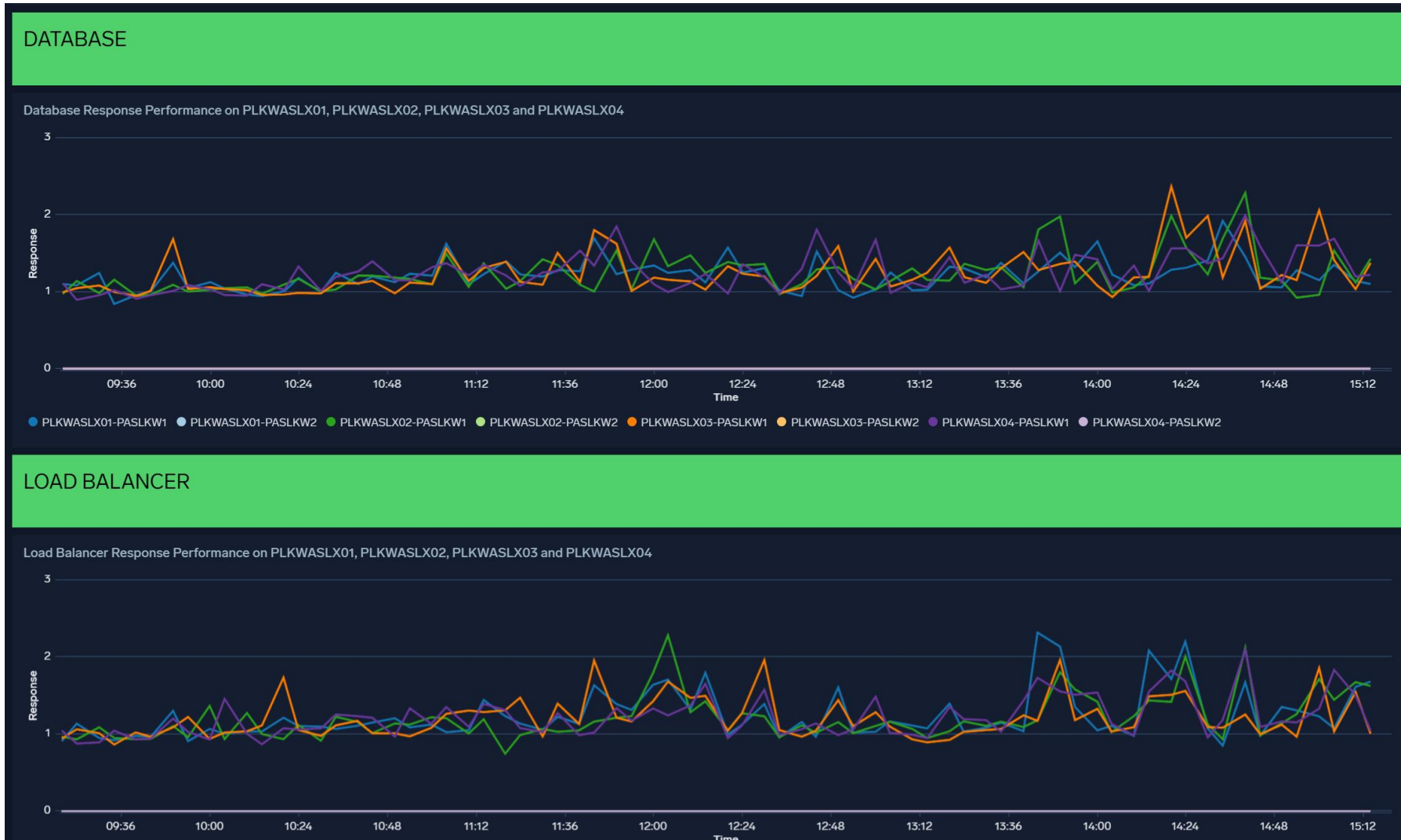
Available Tools – REST / OEJMX

- Accessed from command line using curl or other commands
 - `oejmx.sh` can be used as well
 - Gives you raw data that you can then use elsewhere
-
- NOTE: There is a performance difference between straight REST and OEJMX!

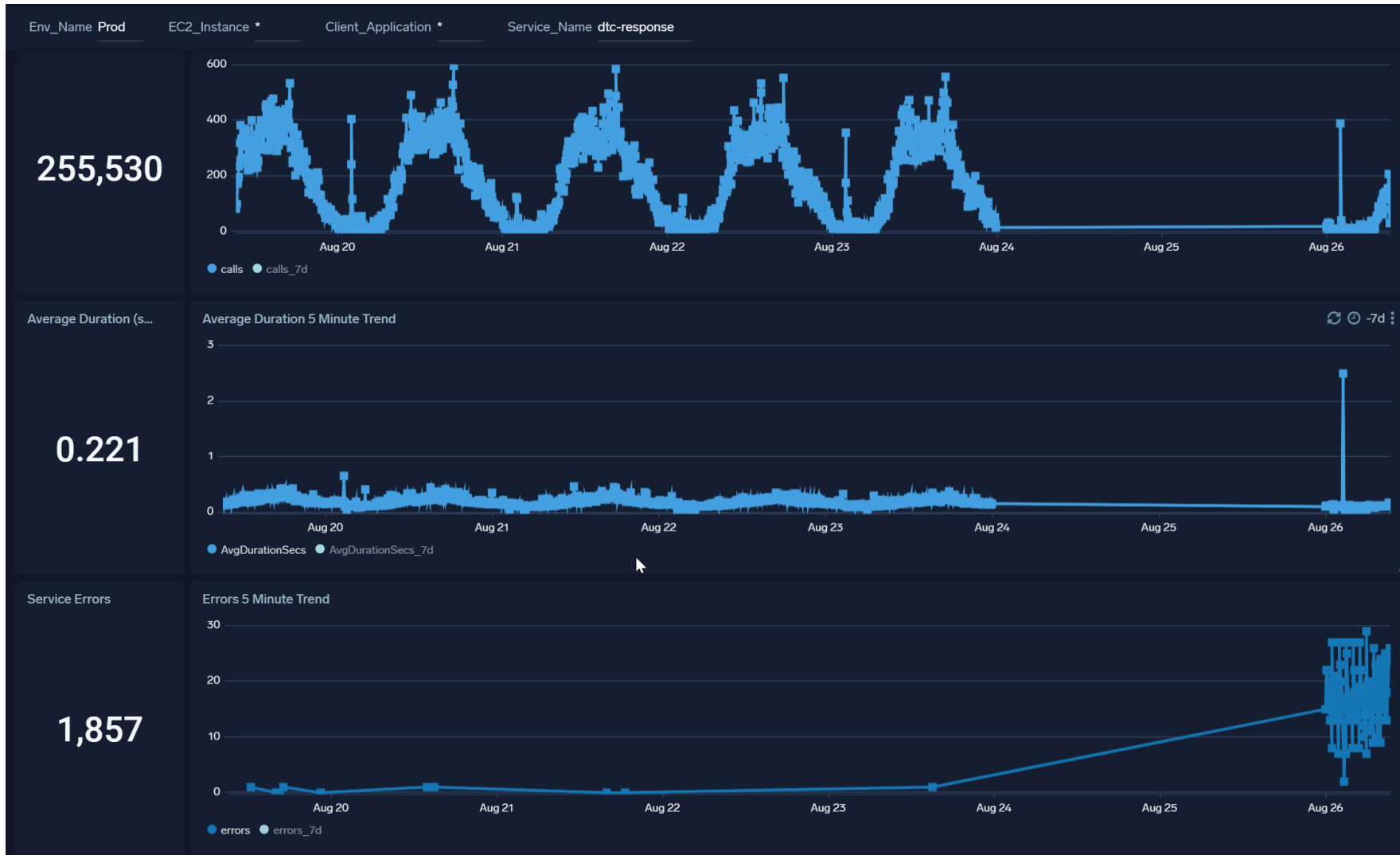
Available Tools – 3RD Party - Sumo



Available Tools – 3RD Party – Sumo (1)



Available Tools – 3RD Party – Sumo (2)



Agenda

- The PASOE Environment
- Monitoring PASOE
- Available Tools
- What and why we do what we do
- Additional Examples
- Summary
- Ancillary Items

What we do...

- Data capture is 100% script driven
- Polling for data uses curl, jq and screen scraping of Iceburg
- Formerly used oejmx but it is slow and not as reliable*
- Poll every 5 minutes
- Health check every poll

Polling Data

```
date,time,server,type,getRequests,connectRequests,putRequests,getErrors,deleteRequests,minABLProcessingTime,maxABLProcessingTime,stdDevABLProcessingTime,postRequests,ablConnectErrors,avgABLConnectTime,optionsRequests,traceRequests,requests,writeErrors,s_reads,concurrentConnectedClients,maxAgentReadTime,writes,maxConcurrentClients,readErrors,avgReserveABLSessionWaitTime,totReserveABLSessionWaitTime,stdDevAgentReadTime,maxReserveABLSessionWaitTime,avgAgentReadTime,numReserveABLSessionTimeouts,minAgentReadTime,numReserveABLSessionWaits,startTime,type,getRequests,connectRequests,putRequests,getErrors,deleteRequests,minABLProcessingTime,maxABLProcessingTime,stdDevABLProcessingTime,postRequests,ablConnectErrors,avgABLConnectTime,optionsRequests,traceRequests,requests,writeErrors,s_reads,concurrentConnectedClients,maxAgentReadTime,writes,maxConcurrentClients,readErrors,avgReserveABLSessionWaitTime,totReserveABLSessionWaitTime,stdDevAgentReadTime,maxReserveABLSessionWaitTime,avgAgentReadTime,numReserveABLSessionTimeouts,minAgentReadTime,numReserveABLSessionWaits,startTime,DBPerfTime,DBLPerfTime,Hostname
20240823,115501,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,42931,0,0,7,118498,3037000499,0,0,17,0,0,42929,0,128805,3,0,85866,21,0,0,324,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,71372,0,142744,0,0,172064,20,0,0,636,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,287,1,313,0
20240823,120001,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,43896,0,0,7,118498,3037000499,0,0,17,0,0,43893,0,131697,4,0,87796,21,0,0,331,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,72498,0,144996,1,0,174744,20,0,0,645,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,341,1,638,0
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20240823,121001,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,46063,0,0,7,118498,3037000499,0,0,17,0,0,46059,0,138195,4,0,92128,21,0,0,345,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,75027,0,150054,0,0,180804,20,0,0,658,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,282,1,316,0
20240823,121501,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,47185,0,0,7,118498,3037000499,0,0,17,0,0,47181,0,141561,5,0,94374,21,0,0,349,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,76264,0,152528,0,0,183753,20,0,0,673,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,122,1,794,0
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20240823,123001,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,50255,0,0,7,118498,3037000499,0,0,17,0,0,50251,0,150771,4,0,100512,21,0,0,371,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,80071,0,160142,0,0,192801,20,0,0,708,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,306,1,39,0
20240823,123501,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,51194,0,0,7,119188,3037000499,0,0,17,0,0,51192,0,153594,2,0,102390,21,0,0,379,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,81137,0,162274,0,0,195336,20,0,0,715,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,016,0,955,0
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20240823,124501,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,53292,0,0,7,119188,3037000499,0,0,17,0,0,53289,0,159885,3,0,106586,21,0,0,409,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,83602,0,167204,0,0,201150,20,0,0,741,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,523,0,963,0
20240823,125001,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,54360,0,0,7,119188,3037000499,0,0,17,0,0,54351,0,163071,9,0,108722,21,0,0,413,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,84960,0,169920,1,0,204361,20,0,0,755,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,021,1,604,0
20240823,125501,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,55422,0,0,7,119188,3037000499,0,0,17,0,0,55418,0,166272,4,0,110846,21,0,0,421,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,86185,0,172370,0,0,207246,20,0,0,761,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,0,922,1,019,0
20240823,130001,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,56456,0,0,7,119188,3037000499,0,0,17,0,0,56450,0,169369,6,0,112914,21,0,0,426,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,87508,0,175016,1,0,210401,20,0,0,766,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,031,1,03,0
20240823,130501,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,57549,0,0,7,119188,3037000499,0,0,17,0,0,57546,0,172657,3,0,115100,21,0,0,434,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,89010,0,178020,0,0,214000,20,0,0,778,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,25,1,164,0
20240823,131001,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,58681,0,0,7,119188,3037000499,0,0,17,0,0,58672,0,176035,10,0,117366,21,0,0,444,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,90294,0,180588,2,0,217056,20,0,0,791,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,019,1,11,0
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20240823,132001,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,60711,0,0,7,119188,3037000499,0,0,17,0,0,60705,0,182137,6,0,121424,21,0,0,460,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,92708,0,185416,0,0,222788,20,0,0,814,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,325,1,395,0
20240823,132501,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,61708,0,0,7,119188,3037000499,0,0,17,0,0,61703,0,185131,5,0,123418,21,0,0,470,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,93911,0,187822,1,0,225660,20,0,0,824,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,302,1,031,0
20240823,133001,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,62793,0,0,7,119188,3037000499,0,0,17,0,0,62789,0,188389,4,0,125588,21,0,0,476,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,95308,0,190616,0,0,228997,20,0,0,835,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,189,1,081,0
20240823,133501,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,63864,0,0,7,119188,3037000499,0,0,17,0,0,63863,0,191611,1,0,127730,21,0,0,485,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,96395,0,192790,1,0,231565,20,0,0,847,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,375,1,147,0
20240823,134001,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,65017,0,0,7,119188,3037000499,0,0,17,0,0,65009,0,195049,8,0,130036,21,0,0,494,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,97686,0,195372,0,0,234637,20,0,0,852,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,107,1,035,0
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20240823,135001,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,67213,0,0,7,119188,3037000499,0,0,17,0,0,67209,0,201649,4,0,134428,21,0,0,512,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,100181,0,200362,2,0,240571,20,0,0,867,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,508,2,135,0
20240823,135501,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,68251,0,0,7,119188,3037000499,0,0,17,0,0,68247,0,204763,4,0,136504,21,0,0,523,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,101326,0,202652,2,0,243279,20,0,0,878,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,319,1,35,0
20240823,140001,p1kwas1x01,OE_OEWEB_TRANSPORT,0,1,69330,0,0,7,119188,3037000499,0,0,17,0,0,69326,0,208001,4,0,138662,21,0,0,531,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,102472,0,204944,1,0,246008,20,0,0,890,0,1,0,0,0,0,0,2024-08-23T02:41:40.101-04:00,1,655,1,047,0
```

[brbowman@p1kwas1x01 pasoe]\$ █



Polling Data – Broken Down by Type

WEB Transport

```
date,time,server,type,patchErrors,postErrors,failedServletRequests,maxABLConnectTime,getRequests,optionsErrors,connectRequests,putRequests,getErrors,deleteRequests,maxABLProcessingTime,abIConnectErrors,postRequests,successfulServletRequests,avgABLProcessingTime,optionsRequests,traceRequests,putErrors,deleteErrors,traceErrors,headErrors,abIRuntimeErrors,requests,writeErrors,reads,concurrentConnectedClients,maxAgentReadTime,writes,maxConcurrentClients,readErrors,avgReserveABLSessionWaitTime,totReserveABLSessionWaitTime,stdDevAgentReadTime,maxReserveABLSessionWaitTime,avgAgentReadTime,numReserveABLSessionTimeouts,minAgentReadTime,numReserveABLSessionwaits,startTime,DBPerfTime,DBLPerfTime,Hostname
20240823,124501,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,28,17,0,0,1,53292,0,0,119188,0,0,53263,1703,0,0,0,0,0,0,0,53289,0,159885,3,0,106586,21,0,0,409,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,1.523,0.963,plkwaslx02
20240823,125001,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,28,17,0,0,1,54360,0,0,119188,0,0,54325,1704,0,0,0,0,0,0,54351,0,163071,9,0,108722,21,0,0,413,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,1.021,1.604,plkwaslx01
20240823,125501,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,28,17,0,0,1,55422,0,0,119188,0,0,55392,1705,0,0,0,0,0,0,0,55418,0,166272,4,0,110846,21,0,0,421,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,0.922,1.019,plkwaslx03
20240823,130001,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,29,17,0,0,1,56456,0,0,119188,0,0,56422,1708,0,0,0,0,0,0,0,56450,0,169369,6,0,112914,21,0,0,426,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,1.031,1.03,plkwaslx02
20240823,130501,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,30,17,0,0,1,57549,0,0,119188,0,0,57518,1710,0,0,0,0,0,0,0,57546,0,172657,3,0,115100,21,0,0,434,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,1.25,1.164,plkwaslx01
20240823,131001,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,30,17,0,0,1,58681,0,0,119188,0,0,58643,1711,0,0,0,0,0,0,0,58672,0,176035,10,0,117366,21,0,0,444,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,1.019,1.11,plkwaslx01
20240823,131501,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,31,17,0,0,1,59741,0,0,119188,0,0,59707,1717,0,0,0,0,0,0,0,59736,0,179227,5,0,119484,21,0,0,448,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,1.026,1.072,plkwaslx02
20240823,132001,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,31,17,0,0,1,60711,0,0,119188,0,0,60675,1718,0,0,0,0,0,0,0,60705,0,182137,6,0,121424,21,0,0,460,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,1.325,1.395,plkwaslx01
20240823,132502,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,32,17,0,0,1,61708,0,0,119188,0,0,61674,1722,0,0,0,0,0,0,0,61703,0,185131,5,0,123418,21,0,0,470,0,1,0,0,0,0,2024-08-23T02:41:27.270-04:00,1.302,1.031,plkwaslx03
```

REST Transport

```
date,time,server,type,getRequests,connectRequests,putRequests,getErrors,deleteRequests,minABLProcessingTime,maxABLProcessingTime,stdDevABLProcessingTime,postRequests,abIConnectErrors,avgABLConnectTime,optionsRequests,traceRequests,requests,writeErrors,s_reads,concurrentConnectedClients,maxAgentReadTime,writes,maxConcurrentClients,readErrors,avgReserveABLSessionWaitTime,totReserveABLSessionWaitTime,stdDevAgentReadTime,maxReserveABLSessionWaitTime,avgAgentReadTime,numReserveABLSessionTimeouts,minAgentReadTime,numReserveABLSessionwaits,startTime,DBPerfTime,DBLPerfTime,Hostname
20240823,134001,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,97686,0,195372,0,0,234637,20,0,0,852,0,1,0,0,0,0,2024-08-23T02:41:40.101-04:00,1.107,1.035,plkwaslx01
20240823,134502,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,98868,0,197736,2,0,237431,20,0,0,858,0,1,0,0,0,0,2024-08-23T02:41:40.101-04:00,1.265,2.316,plkwaslx01
20240823,135001,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,100181,0,200362,2,0,240571,20,0,0,867,0,1,0,0,0,0,2024-08-23T02:41:40.101-04:00,1.508,2.135,plkwaslx03
20240823,135501,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,101326,0,202652,2,0,243279,20,0,0,878,0,1,0,0,0,0,2024-08-23T02:41:40.101-04:00,1.319,1.35,plkwaslx04
20240823,140001,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,102472,0,204944,1,0,246008,20,0,0,890,0,1,0,0,0,0,2024-08-23T02:41:40.101-04:00,1.655,1.047,plkwaslx04
20240823,140501,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,103813,0,207626,1,0,249242,20,0,0,903,0,1,0,0,0,0,2024-08-23T02:41:40.101-04:00,1.222,1.106,plkwaslx03
20240823,141001,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,105488,0,210976,3,0,253285,20,0,0,923,0,1,0,0,0,0,2024-08-23T02:41:40.101-04:00,1.084,0.975,plkwaslx01
20240823,141501,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,106867,0,213734,1,0,256607,20,0,0,933,0,1,0,0,0,0,2024-08-23T02:41:40.101-04:00,1.108,2.082,plkwaslx01
20240823,142001,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,108023,0,216046,2,0,259363,20,0,0,945,0,1,0,0,0,0,2024-08-23T02:41:40.101-04:00,1.286,1.713,plkwaslx03
20240823,142501,plkwaslx01,OE_OEWEB_TRANSPORT,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,109358,0,218716,3,0,262535,20,0,0,957,0,1,0,0,0,0,2024-08-23T02:41:40.101-04:00,1.311,2.199,plkwaslx03
```

APSV Transport

```
date,time,server,type,StatusReqs,ConnReqs,SessionErrs,ConnectErrs,DisconnecReqs,DisconnectErrs,ForbiddenErrs,DBPerfTime,DBLPerfTime
20240823,134001,plkwaslx01,OE_APSV_TRANSPORT,0,11705,1,0,11698,11714,1,0,1.119,1.011
20240823,134501,plkwaslx01,OE_APSV_TRANSPORT,0,11876,2,0,11871,11886,1,0,1.583,1.545
20240823,135001,plkwaslx01,OE_APSV_TRANSPORT,0,12104,2,0,12098,12114,1,0,2.23,1.985
20240823,135501,plkwaslx01,OE_APSV_TRANSPORT,0,12286,2,0,12280,12296,1,0,1.332,1.206
20240823,140001,plkwaslx01,OE_APSV_TRANSPORT,0,12521,2,0,12514,12531,1,0,1.065,1.343
20240823,140501,plkwaslx01,OE_APSV_TRANSPORT,0,12708,2,0,12701,12718,1,0,1.358,0.878
20240823,141001,plkwaslx01,OE_APSV_TRANSPORT,0,12872,2,0,12864,12882,1,0,1.173,1.158
20240823,141501,plkwaslx01,OE_APSV_TRANSPORT,0,13122,2,0,13116,13132,1,0,2.045,1.949
20240823,142001,plkwaslx01,OE_APSV_TRANSPORT,0,13294,2,0,13288,13304,1,0,1.453,1.462
20240823,142501,plkwaslx01,OE_APSV_TRANSPORT,0,13494,2,0,13487,13504,1,0,2.077,1.062
```


Agent Status

```
[m1s@plkwas1x01 root]$ ./status.agents
plkwas1x01 pas1kw1 FMLSAPI SESSIONS(>20)- Total: 29 Idle: 29 Non-Idle: 6
plkwas1x01 pas1kw2 FMLSAPI SESSIONS(>20)- Total: 35 Idle: 35 Non-Idle: 0
plkwas1x01 pas1kw1 FMLSMSG SESSIONS(>20)- Total: 32 Idle: 32 Non-Idle: 0
```

```
#####
plkwdb1x01 pas1kw1 FMLSASV SESSIONS(>0)- Total: 18 Idle: 18 Non-Idle: 1
plkwdb1x01 pas1kw1 FMLSAPI SESSIONS(>?)- Total: 20 Idle: 20 Non-Idle: 3
plkwdb1x01 pas1kw2 FMLSASV SESSIONS(>0)- Total: 17 Idle: 17 Non-Idle: 2
plkwdb1x01 pas1kw2 FMLSAPI SESSIONS(>?)- Total: 21 Idle: 21 Non-Idle: 3
#####
plkwas1x01 pas1kw1 FMLSAPI SESSIONS(>20)- Total: 30 Idle: 30 Non-Idle: 5
plkwas1x01 pas1kw2 FMLSAPI SESSIONS(>20)- Total: 35 Idle: 35 Non-Idle: 0
plkwas1x01 pas1kw1 FMLSMSG SESSIONS(>20)- Total: 32 Idle: 32 Non-Idle: 0
#####
plkwas1x02 pas1kw1 FMLSAPI SESSIONS(>20)- Total: 24 Idle: 24 Non-Idle: 11
plkwas1x02 pas1kw2 FMLSAPI SESSIONS(>20)- Total: 33 Idle: 33 Non-Idle: 0
plkwas1x02 pas1kw1 FMLSMSG SESSIONS(>20)- Total: 30 Idle: 30 Non-Idle: 2
#####
plkwas1x03 pas1kw1 FMLSAPI SESSIONS(>20)- Total: 30 Idle: 30 Non-Idle: 5
plkwas1x03 pas1kw2 FMLSAPI SESSIONS(>20)- Total: 31 Idle: 31 Non-Idle: 4
plkwas1x03 pas1kw1 FMLSMSG SESSIONS(>20)- Total: 32 Idle: 32 Non-Idle: 1
#####
plkwas1x04 pas1kw1 FMLSAPI SESSIONS(>20)- Total: 31 Idle: 31 Non-Idle: 6
plkwas1x04 pas1kw2 FMLSAPI SESSIONS(>20)- Total: 32 Idle: 32 Non-Idle: 2
plkwas1x04 pas1kw1 FMLSMSG SESSIONS(>20)- Total: 32 Idle: 32 Non-Idle: 1
#####
```

More useful monitoring

Fri Aug 23 14:17:51 2024

TIME	PASLKW1		PASLKW2	
	Curr	Busy	Curr	Busy
115001	- 25	4	27	5
115501	- 25	4	27	5
120001	- 25	4	27	7
120501	- 25	4	27	7
121001	- 25	5	27	6
121501	- 25	9	27	11
122001	- 25	5	27	4
122501	- 25	5	27	9
123001	- 25	10	27	12
123501	- 25	4	27	7
124001	- 25	8	27	10
124501	- 25	6	27	3
125001	- 25	10	27	5
125501	- 25	6	27	8
130001	- 25	3	27	6
130502	- 25	5	27	7
131001	- 25	6	27	7
131501	- 25	6	27	5
132001	- 25	10	27	8
132501	- 25	7	27	5
133001	- 25	8	27	6
133501	- 25	13	27	16
134001	- 25	8	27	6
134501	- 25	6	27	7
135001	- 25	8	27	6
135501	- 25	7	27	8
140001	- 25	8	27	8
140501	- 25	7	27	5
141001	- 25	5	27	7
141501	- 25	3	27	8

Why we decided to “roll our own...”

- Is a value between 0 and 1 good or bad?
- How do I trend and alert on data?
- How can I create custom alerts for my application?
- Business challenges
- Monitoring tool challenges – must integrate into corporate solution!

Agenda

- The PASOE Environment
- Monitoring PASOE
- Available Tools
- What and why we do what we do
- Additional Examples
- Summary
- Ancillary Items

status.pasoe script

```
[mls@plkwaslx01 root]$ ./status.pasoe
Fri Aug 23 13:52:45 EDT 2024 PASOE instance paslkw1 is running on plkwaslx01
*****
Running App Count: 4

OK - Listed applications for virtual host [localhost]
/:running:0:ROOT
/fmlsapi:running:0:fmlsapi
/manager:running:18:manager
/fmlsmg:running:1:fmlsmg
/oemanager:running:1:oemanager

*****
Environment Details
CATALINA_HOME: /opt/dlc/v12.2/servers/pasoe
CATALINA_BASE: /pasoe/paslkw1
CATALINA_TMPDIR: /pasoe/paslkw1/temp
CATALINA_PID: /pasoe/paslkw1/temp/catalina-paslkw1.pid
JAVA_HOME: /usr/lib/jvm/java-11-amazon-corretto.x86_64
JRE_HOME:
manager http port: 8205
manager https port: 8206
manager shut port: 8207
manager ajp13 port: 8009
manager health port: 8899
manager URL: http://localhost:8205/manager
config type: instance
config alias: paslkw1
config parent: /opt/dlc/v12.2/servers/pasoe
server running: 1
instance tracking: 1
instance file: /opt/dlc/v12.2/servers/pasoe/conf/instances.unix
server process-id: 26318
security model: production
file system umask 0007

*****
Thread Count= 119
*****

Fri Aug 23 13:52:58 EDT 2024 PASOE instance paslkw2 is running on plkwaslx01
*****
```

Error Metrics Only

```
[mls@plkwaslx01 root]$ ./show.pasoe.errors
Errors for plkwaslx01:paslkw1
time,TomcatErrors,getErrors,ablConnectErrors,maxAgentReadTime,putRequests,getErrors,maxABLProcessingTime,stdDevABLProcessingTime,ablConnectErrors
113002,2,0,0,0,0,0,0,0,0
113501,2,0,0,0,0,0,0,0,0
114001,2,0,0,0,0,0,0,0,0
114501,2,0,0,0,0,0,0,0,0
115001,4,0,0,0,0,0,0,0,0
115501,2,0,0,0,0,0,0,0,0
120001,3,0,0,0,0,0,0,0,0
120501,2,0,0,0,0,0,0,0,0
121001,3,0,0,0,0,0,0,0,0
121501,2,0,0,0,0,0,0,0,0
122001,2,0,0,0,0,0,0,0,0
122502,1,0,0,0,0,0,0,0,0
123001,2,0,0,0,0,0,0,0,0
123501,3,0,0,0,0,0,0,0,0
124001,4,0,0,0,0,0,0,0,0
124501,1,0,0,0,0,0,0,0,0
125001,1,0,0,0,0,0,0,0,0
125501,2,0,0,0,0,0,0,0,0
130001,2,0,0,0,0,0,0,0,0
130501,1,0,0,0,0,0,0,0,0
131001,2,0,0,0,0,0,0,0,0
131501,1,0,0,0,0,0,0,0,0
132001,1,0,0,0,0,0,0,0,0
132502,2,0,0,0,0,0,0,0,0
133001,6,0,0,0,0,0,0,0,0
133501,2,0,0,0,0,0,0,0,0
134001,3,0,0,0,0,0,0,0,0
134502,1,0,0,0,0,0,0,0,0
135001,1,0,0,0,0,0,0,0,0
135501,2,0,0,0,0,0,0,0,0
```

Request Count Metrics

```
Requests for plkwaslx01:paslkw1
time, Tomcat, getRequests, connectRequests, putRequests, deleteRequests, getRequests, connectRequests, putRequests, deleteRequests, requests, requests
113002, 2, 0, 0, 1011, 0, 0, 0, 0, 0, 1010, 1209,
113501, 2, 0, 0, 1036, 0, 0, 0, 0, 0, 1039, 1259,
114001, 2, 0, 0, 1092, 0, 0, 0, 0, 0, 1092, 1206,
114501, 2, 0, 0, 1144, 0, 0, 0, 0, 0, 1137, 1215,
115001, 4, 0, 0, 1151, 0, 0, 0, 0, 0, 1159, 1217,
115501, 2, 0, 0, 965, 0, 0, 0, 0, 0, 964, 1126,
120001, 3, 0, 0, 1076, 0, 0, 0, 0, 0, 1076, 1311,
120501, 2, 0, 0, 1091, 0, 0, 0, 0, 0, 1090, 1218,
121001, 3, 0, 0, 1122, 0, 0, 0, 0, 0, 1122, 1237,
121501, 2, 0, 0, 1097, 0, 0, 0, 0, 0, 1095, 1289,
122001, 2, 0, 0, 960, 0, 0, 0, 0, 0, 959, 1187,
122502, 1, 0, 0, 1013, 0, 0, 0, 0, 0, 1016, 1331,
123001, 2, 0, 0, 939, 0, 0, 0, 0, 0, 941, 1066,
123501, 3, 0, 0, 1005, 0, 0, 0, 0, 0, 1005, 1178,
124001, 4, 0, 0, 1093, 0, 0, 0, 0, 0, 1092, 1287,
124501, 1, 0, 0, 1068, 0, 0, 0, 0, 0, 1062, 1358,
125001, 1, 0, 0, 1062, 0, 0, 0, 0, 0, 1067, 1225,
125501, 2, 0, 0, 1034, 0, 0, 0, 0, 0, 1032, 1323,
130001, 2, 0, 0, 1093, 0, 0, 0, 0, 0, 1096, 1502,
130501, 1, 0, 0, 1132, 0, 0, 0, 0, 0, 1126, 1284,
131001, 2, 0, 0, 1060, 0, 0, 0, 0, 0, 1064, 1183,
131501, 1, 0, 0, 970, 0, 0, 0, 0, 0, 969, 1231,
132001, 1, 0, 0, 997, 0, 0, 0, 0, 0, 998, 1203,
132502, 2, 0, 0, 1085, 0, 0, 0, 0, 0, 1086, 1397,
133001, 6, 0, 0, 1071, 0, 0, 0, 0, 0, 1074, 1087,
133501, 2, 0, 0, 1153, 0, 0, 0, 0, 0, 1146, 1291,
134001, 3, 0, 0, 1020, 0, 0, 0, 0, 0, 1019, 1182,
134502, 1, 0, 0, 1176, 0, 0, 0, 0, 0, 1181, 1313,
135001, 1, 0, 0, 1038, 0, 0, 0, 0, 0, 1038, 1145,
135501, 2, 0, 0, 1079, 0, 0, 0, 0, 0, 1079, 1146,
```

Error Message Parsing

```
[mls@p1kwdb1x01 pasoe]$ ./search_PASOELogs.sh
```

```
Search in logs for specific messages in all PASOE instances  
3 samples, 3 seconds between each sample
```

```
Search Criteria: ,500,
```

```
Searching /pasoe/pas1kw1/logs/localhost-access.2024-10-01.log
```

```
Instance: 1 Sample: 1 ASLX01: 37 ASLX02: 38 ASLX03: 36 ASLX04: 36 DBLX01: 74  
Instance: 1 Sample: 2 ASLX01: 37 ASLX02: 38 ASLX03: 36 ASLX04: 36 DBLX01: 74  
Instance: 1 Sample: 3 ASLX01: 37 ASLX02: 38 ASLX03: 36 ASLX04: 36 DBLX01: 74
```

```
Searching /pasoe/pas1kw2/logs/localhost-access.2024-10-01.log
```

```
Instance: 2 Sample: 1 ASLX01: 2 ASLX02: 1 ASLX03: 2 ASLX04: 2934 DBLX01: 66  
Instance: 2 Sample: 2 ASLX01: 2 ASLX02: 1 ASLX03: 2 ASLX04: 2934 DBLX01: 66  
Instance: 2 Sample: 3 ASLX01: 2 ASLX02: 1 ASLX03: 2 ASLX04: 2934 DBLX01: 66
```

Agenda

- The PASOE Environment
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Summary

- Monitoring is critical to being successful with PASOE
- You can roll your own or purchase part of the solution!
- Examples of our scripts are available to get you started
- I wish...

Additional Thoughts

- Round trip check has been vital to us
- Things change – plan for adjusting
- Sometimes being on the bleeding edge hurts...

Ancillary Items

- Example scripts available to you
 - pasoe_env – Sets up the environment for the scripts (and start and stop of PASOE)
 - poll.pasoe
 - poll.agents
 - health.pasoe
 - status.* - gather and show the status of various parts of PASOE
 - show.* - breakout of specific information that is useful

Contact Information

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