



EBS Performance Tuning Simplified

MAY 15 & 16, 2019

CLEVELAND PUBLIC AUDITORIUM, CLEVELAND, OHIO

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Andy Haack

- Managing Director Enginatics
 - Working 20 Years with EBS
 - Performance Tuning specialist
 - Invented a better tool to analyze performance data in a usable format
 - Expanded tool to cover many reporting and development needs

Performance tuning

- Reduce processed data volumes while making best use of available hardware.
 1. Check system configuration
 2. Review system load and hardware speed
 3. Identify worst SQLs and their business purpose
 4. Analyze individual SQLs and apply corrections

Is all memory used for SGA+PGA?

DBA SGA+PGA Memory Configuration

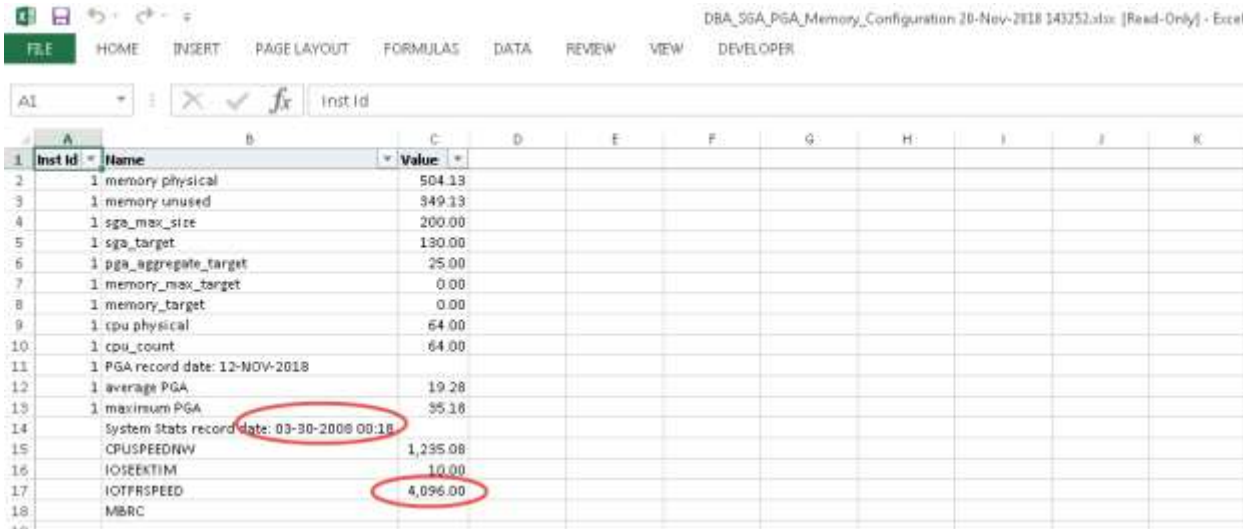
- Ensure the **SGA** is setup as large as possible to make full use of the available RAM (also set hugepages), leaving just enough space for PGA and a tad for OS processes.

DBA_SGA_PGA_Memory_Configuration 20-Nov-2018 143252.xlsx [Read-Only] - Excel

Inst Id	Name	Value
1	memory physical	504.13
1	memory unused	349.13
1	sga_max_size	200.00
1	sga_target	130.00
1	pga_aggregate_target	25.00
1	memory_max_target	0.00
1	memory_target	0.00
1	cpu physical	64.00
1	cpu_count	64.00
1	PGA record date: 12-NOV-2018	
1	average PGA	19.28
1	maximum PGA	35.18
	System Stats record date: 03-30-2008 00:18	
	CPU SPEEDNW	1,235.08
	IOSEEKTIM	10.00
	IOTFRSPEED	4,096.00
	MBRC	

Check parameter and cleanup old editions

- Verify all **initialization parameters** are setup according to note 396009.1. Install and run Oracle's automated analyzer scripts / concurrent programs to validate this.
- For 12.2.x customers : Execute full cleanup after online patching to keep **no more than 5 editions** in the system to prevent dictionary tables such as sys.obj\$ from growing large.
- Check if **system stats** are gathered for the current hardware and generate them if not: `exec dbms_stats.gather_system_stats('noworkload')`.



Inst Id	Name	Value
1	memory physical	504.13
1	memory unused	349.13
1	sga_max_size	200.00
1	sga_target	130.00
1	pga_aggregate_target	25.00
1	memory_max_target	0.00
1	memory_target	0.00
1	cpu physical	64.00
1	cpu_count	64.00
1	PGA record date: 12-NOV-2018	
1	average PGA	19.28
1	maximum PGA	95.18
1	System Stats record date: 03-30-2008 08:18	
1	CPU\$PEEDNW	1,235.08
1	IOSEEKTIM	10.00
1	IOTFRSPEED	4,096.00
1	MBRC	

Review system load and hardware speed

DBA AWR System Metrics Summary

- Check overall system IO, both logical (buffer read) and physical.
- Too high logical IO indicates inefficient SQLs, too low physical IO usually slow disks.

DBA_AWR_System_Metrics_Summary_20-Nov-2013_142043.xlsx (Read-Only) - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER

A1 Day Of Week

Day Of Week	End Interval Time	Instance Number	Cpu% Avg	Cpu% Max	Wait% Avg	Wait% Max	Buff Read Avg	Buff Read Max	Phys Read Avg	Phys Read Max	Phys Write Avg	Phys Write Max
Tuesday	20-Nov-18 14:20:25	1	20.03	15.36	15.510.25	125.22	16.04					
Tuesday	20-Nov-18 14:00:44	1	17.90	28.10	15.56	51.66	8,650.14	19,241.49	110.69	315.19	19.65	122.83
Tuesday	20-Nov-18 13:00:39	1	16.47	27.33	8.50	30.42	8,797.55	15,361.47	258.26	1,074.47	6.33	38.60
Tuesday	20-Nov-18 12:00:34	1	17.00	31.81	13.67	38.48	9,115.96	16,055.09	155.08	398.92	10.76	105.98
Tuesday	20-Nov-18 11:00:30	1	21.41	35.17	20.70	49.74	11,206.80	21,547.69	176.79	954.02	9.56	51.13
Tuesday	20-Nov-18 10:00:25	1	22.57	36.69	21.95	60.95	12,700.91	23,883.78	235.96	819.80	9.02	58.77
Tuesday	20-Nov-18 09:00:21	1	22.36	38.98	27.35	53.36	11,428.50	18,199.86	150.13	304.76	12.88	69.52
Tuesday	20-Nov-18 08:00:16	1	20.06	30.50	27.44	52.03	10,453.13	16,988.04	117.82	329.12	12.52	55.81
Tuesday	20-Nov-18 07:00:11	1	21.21	37.21	21.59	40.08	10,790.60	20,306.38	71.34	211.46	10.68	56.17
Tuesday	20-Nov-18 06:00:07	1	16.96	31.31	40.77	59.04	8,928.04	16,419.17	114.99	274.61	25.07	84.07
Tuesday	20-Nov-18 05:01:00	1	18.84	34.25	23.66	59.49	12,605.87	21,180.89	84.47	246.40	7.63	49.06
Tuesday	20-Nov-18 04:00:53	1	22.15	38.39	42.20	61.39	11,926.15	21,104.85	77.54	264.72	23.79	71.06
Tuesday	20-Nov-18 03:00:48	1	19.09	28.23	21.58	62.28	9,990.03	15,509.52	86.75	293.67	18.86	86.73
Tuesday	20-Nov-18 02:00:43	1	19.11	28.86	19.69	46.62	10,634.57	15,347.78	84.35	221.04	16.85	82.91
Tuesday	20-Nov-18 01:00:39	1	15.23	30.77	20.30	81.94	8,742.23	20,456.41	184.46	966.24	15.59	74.18
Tuesday	20-Nov-18 00:00:35	1	12.00	19.19	15.56	48.12	5,594.83	12,039.14	113.42	422.67	8.96	45.45
Monday	19-Nov-18 23:00:30	1	12.02	25.64	20.03	39.92	5,539.29	19,071.34	155.78	661.39	8.83	52.38
Monday	19-Nov-18 22:00:24	1	10.53	21.07	18.75	56.28	4,785.61	20,625.17	85.95	1,210.33	9.66	74.94
Monday	19-Nov-18 21:00:20	1	19.13	26.56	31.29	69.25	6,626.84	19,955.76	88.36	217.42	32.47	176.86
Monday	19-Nov-18 20:00:15	1	15.75	30.28	23.22	55.09	6,541.27	16,594.82	87.56	345.07	21.67	111.76
Monday	19-Nov-18 19:00:11	1	11.73	23.89	24.28	68.07	4,463.87	10,931.15	79.25	402.53	9.58	65.46
Monday	19-Nov-18 18:00:06	1	14.42	25.11	13.12	40.11	7,300.43	15,117.49	105.62	285.96	21.29	101.40
Monday	19-Nov-18 17:00:02	1	18.01	39.84	13.07	78.67	6,777.15	22,742.10	249.42	1,044.00	14.45	58.38
Monday	19-Nov-18 16:00:58	1	18.25	34.60	28.19	42.64	11,090.27	24,248.71	142.91	315.68	11.78	53.99
Monday	19-Nov-18 15:00:53	1	19.70	33.90	21.10	48.96	17,358.39	24,968.33	133.19	240.27	10.57	101.82
Monday	19-Nov-18 14:00:49	1	19.88	27.70	35.32	52.68	16,726.54	21,437.57	126.42	430.78	31.29	116.87
Monday	19-Nov-18 13:00:45	1	18.58	49.86	28.50	40.98	15,671.54	32,101.59	268.16	1,048.16	11.38	91.95

Where is the database time spent?

DBA AWR System Time Summary

- Check where the DB is spending most of it's time, usually SQL execution.

DBA_AWR_System_Time_Summary 20-Nov-2018 14:07:03 (Read-Only) - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER

A1 X ✓ fx Day of Week

Day Of Week	End Interval Time	SQL Execution	Phys Execution	Inbound Msg Rcv	Ass Execution	Hard Parse	Failed Parse	Soft Parse	Repeated Bind	Conn Management	Phys Compilation	Sequence Load	Background Blsped Other	Background C
Tuesday	20-Nov-18 14:00:44	12h 2m 57s	57m 18s	29m 57s	55s	28m 50s	15m 11s	0s	24s	1m 23s	42s	15s	1h 31m 49s	12m 20s
Tuesday	20-Nov-18 13:00:39	10h 11m 31s	47m 44s	27m 50s	1m 1s	10m 27s	3s	6m 22s	30s	1m 12s	45s	40s	20m 11s	13m 7s
Tuesday	20-Nov-18 12:00:34	1h 9m 41s	46m 21s	28m 36s	47s	10m 5s	14s	5m 49s	25s	1m 7s	39s	17s	1h 26m 50s	11m 51s
Tuesday	20-Nov-18 11:00:28	14h 19m 32s	53m 31s	1h 13m 10s	1m 2s	16m 45s	9m 10s	3m 49s	29s	1m 18s	58s	6s	57m 3s	12m 35s
Tuesday	20-Nov-18 10:00:25	16h 10m 34s	1h 1m 58s	2h 11m 15s	1m 5s	49m 5s	4m 16s	3m 29s	27s	1m 27s	1m 18s	10s	31m 31s	10m 25s
Tuesday	20-Nov-18 09:00:21	16h 59m 5s	1h 23m 26s	2h 39m 58s	1m 14s	39m 8s	2m 10s	0s	27s	1m 22s	1m 24s	21s	1h 5m 47s	10m 29s
Tuesday	20-Nov-18 08:00:16	16h 0m 45s	1h 13m 51s	1h 3m 49s	1m 20s	49m 49s	31m 4s	1h 0m 16s	33s	1m 15s	50s	11s	46m 27s	9m 48s
Tuesday	20-Nov-18 07:00:11	15h 27m 20s	1h 7m 46s	26m 0s	1m 10s	1h 1m 18s	43m 23s	1h 29m 27s	30s	1m 5s	54s	14s	26m 15s	9m 14s
Tuesday	20-Nov-18 06:00:07	16h 3m 7s	1h 3m 35s	31m 4s	41s	39m 29s	14m 29s	0s	26s	55s	43s	4s	3h 15m 6s	12m 46s
Tuesday	20-Nov-18 05:00:00	14h 10m 14s	47m 0s	20m 10s	1m 18s	31m 36s	13m 15s	0s	24s	53s	44s	8s	1h 12m 12s	9m 49s
Tuesday	20-Nov-18 04:00:53	21h 27m 52s	58m 10s	25m 4s	35s	45m 41s	30m 5s	41m 25s	56s	52s	52s	4s	4h 27m 21s	14m 30s
Tuesday	20-Nov-18 03:00:48	14h 26m 5s	1h 7m 13s	35m 45s	84s	12m 19s	12s	4m 52s	27s	48s	40s	2s	1h 48m 59s	12m 42s
Tuesday	20-Nov-18 02:00:43	14h 5m 44s	1h 6m 12s	51m 42s	32s	17m 29s	6s	5m 31s	85s	39s	51s	7s	1h 31m 22s	12m 54s
Tuesday	20-Nov-18 01:00:39	12h 17m 23s	44m 25s	1h 16m 43s	33s	9m 25s	3s	4m 22s	25s	42s	33s	2s	1h 4m 48s	9m 41s
Tuesday	20-Nov-18 00:00:35	8h 14m 59s	34m 51s	16m 25s	89s	6m 10s	1s	8m 12s	22s	38s	17s	3s	47m 36s	9m 28s
Monday	19-Nov-18 23:00:30	4h 27m 35s	31m 35s	6m 32s	28s	5m 19s	2s	3m 1s	21s	32s	17s	1s	50m 53s	10m 21s
Monday	19-Nov-18 22:00:24	7h 24m 45s	21m 56s	15m 58s	17s	3m 14s	2s	2m 37s	21s	30s	6s	2s	1h 5m 47s	10m 16s
Monday	19-Nov-18 21:00:20	11h 21m 48s	53m 52s	15m 6s	36s	10m 32s	30s	3m 0s	22s	30s	6s	2s	2h 53m 36s	15m 39s
Monday	19-Nov-18 20:00:15	9h 57m 14s	7m 21s	22m 33s	25s	4m 13s	1s	3m 16s	24s	39s	16s	14s	1h 46m 47s	14m 43s
Monday	19-Nov-18 19:00:11	7h 46m 58s	1h 16m 12s	37m 33s	30s	6m 39s	10s	9m 0s	23s	32s	22s	7s	1h 4m 27s	10m 57s
Monday	19-Nov-18 18:00:06	9h 18m 45s	47m 15s	9m 42s	24s	7m 47s	0s	5m 6s	24s	48s	16s	2s	1h 54m 11s	13m 47s
Monday	19-Nov-18 17:00:01	12h 40m 11s	1h 7m 43s	20m 22s	29s	12m 5s	1s	7m 32s	22s	47s	21s	2s	48m 44s	11m 21s
Monday	19-Nov-18 16:00:53	13h 53m 40s	1h 20m 4s	1h 25m 25s	53s	18m 42s	1m 6s	5m 20s	29s	1m 3s	55s	4s	1h 0m 1s	13m 30s
Monday	19-Nov-18 15:00:53	14h 2m 47s	1h 0m 16s	51m 43s	1m 2s	30m 54s	11m 31s	0s	26s	1m 5s	11s	0s	1h 18m 16s	11m 18s
Monday	19-Nov-18 14:00:49	14h 54m 32s	1h 3m 10s	1h 27m 17s	1m 2s	30m 15s	13m 46s	0s	39s	1m 16s	39s	10s	4h 16m 10s	20m 45s
Monday	19-Nov-18 13:00:45	12h 17m 16s	1h 5m 21s	35m 4s	1m 10s	18m 0s	3m 2s	4m 53s	83s	1m 0s	43s	2s	1h 24m 58s	15m 19s
Monday	19-Nov-18 12:00:40	17h 41m 11s	1h 21m 50s	56m 0s	58s	53m 20s	45s	5m 19s	46s	1m 15s	40s	8s	2h 30m 35s	11m 53s

Would a bigger SGA benefit performance?

DBA AWR System Wait Event Summary

- Check for high IO related wait times, which could be eliminated with a bigger memory (SGA/buffer cache).

DBA_AWR_System_Wait_Event_Summary 20-Nov-2018 142156 - by class.xlsx [Read-Only] - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER

A1 : Percentage

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Percentage	Wait Class	Seconds	Time									
2	52.13	User I/O	219,921	2d 13h 5m 21s									
3	26.15	System I/O	110,319	1d 6h 38m 39s									
4	9.04	Commit	36,139	10h 35m 39s									
5	4.72	Concurrency	19,928	5h 32m 8s									
6	4.62	Application	19,497	5h 24m 57s									
7	1.96	Network	8,261	2h 17m 41s									
8	1.02	Other	4,299	1h 11m 39s									
9	0.36	Configuration	1,528	25m 28s									
10	0.00	Scheduler	15	15s									
11													

Is there anything else unusual?

DBA AWR System Wait Event Summary

- Check the wait times for configuration issues, such as the redo logs located on a too slow storage.

DBA_AWR_System_Wait_Event_Summary 20-Nov-2018 14:21:37 - by event.xlsx [Read-Only] - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER

A1 : Percentage

Percentage	Wait Class	Event Name	Seconds	Time						
33.58	User I/O	db file sequential read	141,680	1d 15h 21m 20s						
21.56	System I/O	db file async I/O submit	99,975	1d 1h 16m 15s						
9.04	Commit	log file sync	38,139	10h 35m 39s						
5.02	User I/O	db file parallel read	21,190	5h 53m 10s						
4.44	System I/O	log file parallel write	18,714	5h 11m 54s						
4.04	Concurrency	cursor: pin S wait on X	17,049	4h 44m 9s						
3.86	User I/O	read by other session	16,278	4h 31m 18s						
3.79	Application	enq: TX - row lock contention	16,005	4h 26m 45s						
3.77	User I/O	direct path read	15,887	4h 24m 47s						
3.68	User I/O	db file scattered read	15,505	4h 18m 25s						
1.70	Network	TCP Socket (KGAS)	7,170	1h 59m 30s						
1.00	User I/O	direct path write temp	4,224	1h 10m 24s						
0.67	User I/O	Disk file operations I/O	2,843	47m 23s						
0.46	Other	kksfbc child completion	1,936	32m 16s						
0.34	Application	SQL*Net break/reset to client	1,429	23m 49s						
0.32	Application	enq: KO - fast object checkpoint	1,363	22m 43s						
0.31	Concurrency	buffer busy waits	1,316	21m 56s						
0.30	Other	enq: JI - contention	1,250	20m 50s						
0.22	Configuration	log buffer space	946	15m 46s						
0.21	Other	enq: MS - contention	902	15m 2s						
0.21	User I/O	utl_file I/O	894	14m 54s						

Which are the worst SQLs?

DBA AWR SQL Performance Summary

- Worst performing SQLs by total IO (in MB) or elapsed time for a specified timeframe.
- AWR captures a history of the top 30 SQLs from 5 different categories for each snapshot interval.
- Useful to review total server load (IO) by individual SQL.
- Responsibility, Module Type, Module Name shows the origin of the SQL (of the session first executing it). Code and Code Line# shows the database package and codeline.

DBA SGA Active Session History

- Very detailed report with one record per second for all active sessions in the DB.
- Almost like a trace e.g. to see which SQLs a particular session was spending it's time with.
- Contains recent session data only (memory and load dependent, usually few hours back).
- Useful to identify smaller performance issues from SQLs, which are not captured in the AWR, e.g. few seconds delay in the forms UI.
- Or to do a pivot in excel to quickly see wait times by individual Users, Forms, Wait Events or SQLs.
- Use parameter 'Show Blocking Session Info' to identify the root cause for blocking scenarios.

DBA AWR Active Session History

- Same as SGA Active Session History, but for a longer timeframe (AWR retention default: 8 days) and with snapshots every 10 seconds.
- Useful to review performance issues or blocking scenarios which are longer in the past (no longer in SGA Active Session History).

DBA AWR SQL Performance Summary

DBA_AWR_SQL_Performance_Summary13-Dec-2018_105542.xlsx [Read-Only] - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER

F6 | X ✓ fx | -PAY_PYUCSUS_PKG

1	Percentage	Responsibility	Module Type	Module Name	Module	Code	Code Line#	Sql Id	Plan Hash Value	Sql Text
4	4.98		Concurrent Manager	Standard Manager	e-FND:cp:STANDARD			cd23u4fyhw6	855599798	select
6	1.57	HRMS Management	Concurrent Request	Payroll Worker Process	e-PER:cp:pay/PYUSLV	PAY_PYUCSUS_PKG	2076	bvbjdx73wuk8k	2941506444	SELECT
8	1.44			rabblx_server_poller #5 [got 0 values in 0.0000	rabblx_server_poller #5 [got 0 values in 0.0000			cggru42up0yh	2135551028	select
10	1.26		Concurrent Manager	Standard Manager	e-FND:cp:STANDARD			2mwvn9swq1ts	1734896627	select
12	0.97			rabblx_server_poller #5 [got 0 values in 0.0000	rabblx_server_poller #5 [got 0 values in 0.0000			4h07wzb76kkv3	1388734953	select
20	0.53			rabblx_server_poller #5 [got 0 values in 0.0000	rabblx_server_poller #5 [got 0 values in 0.0000			53zfw8pbtuwH	4095192241	select
22	0.49	HRMS Management	Concurrent Request	Maintain Person Security List information(internal)	e-PER:cp:per/MSL_PERSON_LIST	PAY_ARCHIVE	1350	cp:3yrqwa2cn	1213796209	DELETE
23	0.49		Concurrent Manager	Internal Manager	e:cp:90			cbkrhum510pt	2720561827	update
26	0.42	Manufacturing Manager	Form	JOEN Blitz Report	e-MSC:frm:JOEN_REPORTS			1vsphgvd8hgqf	367882267	select
28	0.41		Concurrent Manager	Internal Manager	e:cp:90			75r3t7hw0n9a9	752100688	select
31	0.32			JD&C Thin Client	JD&C Thin Client			dsawf7hwg1ym94	3594860266	select
35	0.27			TOAD 9.1.0.62	TOAD 9.1.0.62			141kncypu48bc	1050360958	select
36	0.27			TOAD 9.1.0.62	TOAD 9.1.0.62			1tkqfcp6q7y	39037297	SELECT
38	0.24	Manufacturing Manager	Blitz Report	DBA_Text_Search	JOEN-REPORT - DBA_Text_Search			eadj62w2ubwvv	1792722840	select
40	0.24			sqlplus	sqlplus@apps.ecampix.com (TNS V1-V3)	WB_WORKSPACE_MANAGEMENT	1377	28f86c7w5w4t6	222425949	SELECT
44	0.22	HRMS Management	Concurrent Request	Payroll Worker Process	e-PER:cp:pay/PYUSLV	HR_NONRUN_ASACT	141	6b38fcbwqwgqz	967918754	SELECT
45	0.21	Application Developer	Blitz Report	FND_Access_Control	JOEN-REPORT - FND_Access_Control			gd4wghub3rpy	1612792252	withfu
48	0.19	HRMS Management	Concurrent Request	Payroll Worker Process	e-PER:cp:pay/PYUSLV	HR_NONRUN_ASACT	1357	gbuh1tz2hgrz9	518868286	INSERT

1	Duration	Time	Elapsed Time	User Wait Time	Cpu Time	Msgs Rec Time	Concurrency Wait Time	Application Wait Time	Time Exec	Buffer ID	Block ID	ID Desc	Rows Processed	Rows Docs	ID Rows	ID Sec	ID Sec Avg
2	972	18h 24m 28s	66,369.56	8,627.84	14,270.47	43,739.92	2.27	5,169.81	179.14	12,667,348.28	65,716.54	34,052.01	972	1.00	94,052.01	191.15	1.006
3	51	26h 20m 35m 27s	246,927.27	17,232.75	44,293.07	200,184.08	966.58	0.00	4,841.71	11,167,649.47	19,460.47	218,973.92	91	1.00	218,973.92	45.23	
4	4,159	2h 34m 3s	9,243.54	0.00	9,243.54	0.00	0.00	0.00	2.22	5,840,540.78	0.00	1,469.12	33,343	0.02	175.77	634.01	3,228
5	381	6h 8m 7s	22,087.70	5.91	20,573.99	1,556.49	0.10	0.15	78.80	5,495,732.73	4.95	19,415.42	281	1.00	19,415.42	247.00	433
6	381	6h 1m 57s	21,717.70	3.81	20,536.05	1,228.82	0.05	0.11	77.29	5,416,638.95	4.82	19,276.30	1,967	7.00	2,763.76	249.41	430
7	2,051	4h 19m 13s	19,313.27	0.06	15,312.69	0.00	0.00	0.00	5.41	5,134,821.04	0.06	1,824.98	2,629	1.00	1,836.27	339.24	412
8	40	0h 4m 11s	29,051.19	1,291.87	12,010.56	18,454.75	32.35	4.66	726.28	5,044,735.60	33,992.74	126,110.39	40	1.00	126,110.39	173.65	
9	1	6h 59m 53s	25,193.02	326.87	9,760.09	15,695.17	1.61	0.13	25,193.02	4,418,286.10	122.70	4,418,286.10	10,436	20,436.00	215.57	175.38	
10	1	1h 21m 4s	4,864.61	498.34	4,329.95	277.08	27.88	0.00	4,864.61	4,288,140.75	787.06	4,288,140.75	0	0.00	881.50		
11	27,784,518	168h 42m 48s	117,768.46	0.00	19,820.89	107,265.82	964.45	0.97	0.00	3,292,388.07	0.00	0.12	2,849,760	0.10	1.16	27.96	865
12	186	14h 42m 3s	103,323.92	2,014.91	13,397.80	92,104.49	217.70	6,548.61	527.16	3,267,597.49	2,066.77	16,671.36	180	0.92	18,153.26	31.62	259
13	0	168h 34m 34s	116,874.72	5.90	22,092.38	104,017.88	947.92	0.97	0.00	3,198,414.64	0.00	0.00	0	0.00		27.41	
14	8	2h 22m 21s	8,541.45	111.55	8,374.90	39.96	0.00	0.00	1,967.48	3,021,042.89	132.51	377,630.36	8	1.00	377,630.36	393.69	
15	1	1h 9m 3s	4,143.55	498.34	3,617.69	277.08	28.28	0.00	4,143.55	2,957,639.27	787.06	2,957,639.27	0	0.00		713.73	
16	19	1h 4m 26s	3,898.94	0.04	3,898.55	0.00	0.22	0.00	205.21	2,956,812.49	0.05	155,621.71	4	0.21	739,203.12	758.36	

DBA SGA Active Session History

- One record per second for all active sessions, e.g. application users' Forms UI sessions.

DBA_SGA_Active_Session_History 28-Feb-2018 11:21:25.xlsx - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER

CBS TBRICKLEY (Tressa Brickle)

1	Sample Time	Sid	Serial#	User Name	Responsibility	Module Type	Module Name	UI Type	Module	Program	Program Level	Sqlid
22342	26.02.18.08.27.13	5143	39697	FRBOE (Forest Broe)	US ST Assortment Manager (PM)	Form	Product catalog	Forms	e:\XPO frm\XCPBASE	XXPK_PK_ORGANIZATION_DATA_TRG		11 a0kvvv1s0w5
22343	26.02.18.08.27.13	7188	21637	MNEHTRD (Marlene Nehring)	US VS CS Level 1 (CS)	Form	Product catalog	Forms	e:\MOE frm\XCPBASE			c3vwsashyqlm
22344	26.02.18.08.27.13	5143	39697	FRBOE (Forest Broe)	US ST Assortment Manager (PM)	Form	Product catalog	Forms	e:\XPO frm\XCPBASE	XXPK_PK_ORGANIZATION_DATA_TRG		11 a0kvvv1s0w5
22345	26.02.18.08.27.13	3088	25899	CMATEO (Carolee Mabeo)	US VS DGH Warehouse Organization (LG)	Form	Enter goods receipts	Forms	e:\MOE frm\XCPORCV			6vft7m6sov3x
22346	26.02.18.08.27.13	4246	42553	JHRUDG (Donna Hertz)	US VS DGH batch generation (LG)	Form	Run Reports	Forms	e:\XSH frm\FNDRSRUN			05fn74nbkms8
22347	26.02.18.08.27.14	5143	39697	FRBOE (Forest Broe)	US ST Assortment Manager (PM)	Form	Product catalog	Forms	e:\XPO frm\XCPBASE	XXPK_PK_ORGANIZATION_DATA_TRG		11 a0kvvv1s0w5
22348	26.02.18.08.27.14	5962	25263	EJOBE (Edra Jobe)	RJ VS Warehouse Operation Controlling (LG)	Form	Collect picking performance	Forms	e:\XSH frm\XCSHPIKING	XXSH_PICKING_FRM_PKG		1374 056pdyrapdrv
22349	26.02.18.08.27.14	2088	25899	CMATEO (Carolee Mabeo)	US VS DGH Warehouse Organization (LG)	Form	Enter goods receipts	Forms	e:\MOE frm\XCPORCV			
22350	26.02.18.08.27.14	9563	32501	EMILLETTE (Erin Milllette)	US VS DGH Fault location (LG)	Form	Batch Workbench	Forms	e:\XSH frm\XCSHBNF	XXSH_BATCH_WORKBENCH_UTILS		1744 400rdggdyrv
22351	26.02.18.08.27.15	5143	39697	FRBOE (Forest Broe)	US ST Assortment Manager (PM)	Form	Product catalog	Forms	e:\XPO frm\XCPBASE	XXPK_PK_ORGANIZATION_DATA_TRG		11 a0kvvv1s0w5
22352	26.02.18.08.27.15	2088	25899	CMATEO (Carolee Mabeo)	US VS DGH Warehouse Organization (LG)	Form	Enter goods receipts	Forms	e:\MOE frm\XCPORCV			82p3089v82d8
22353	26.02.18.08.27.15	9563	32501	EMILLETTE (Erin Milllette)	US VS DGH Fault location (LG)	Form	Batch Workbench	Forms	e:\XSH frm\XCSHBNF	XXSH_BATCH_WORKBENCH_UTILS		1744 400rdggdyrv
22354	26.02.18.08.27.16	6750	14201	LCUITOR (Louetta Clifton)	US VS DGH Processing Returns (LG)	Form	Returns detection	Forms	e:\XSH frm\XCSHRESCAP			
22355	26.02.18.08.27.16	5143	39697	FRBOE (Forest Broe)	US ST Assortment Manager (PM)	Form	Product catalog	Forms	e:\XPO frm\XCPBASE	XXPK_PK_ORGANIZATION_DATA_TRG		11 a0kvvv1s0w5
22356	26.02.18.08.27.16	5962	25263	EJOBE (Edra Jobe)	RJ VS Warehouse Operation Controlling (LG)	Form	Collect picking performance	Forms	e:\XSH frm\XCSHPIKING	XXSH_PICKING_FRM_PKG		1374 056pdyrapdrv
22357	26.02.18.08.27.16	3088	25899	CMATEO (Carolee Mabeo)	US VS DGH Warehouse Organization (LG)	Form	Enter goods receipts	Forms	e:\MOE frm\XCPORCV	XXSH_LRN_MGMT_PKG		133 55wq6lygsd4
22358	26.02.18.08.27.17	2248	50785	BRAMHALL (Barney Bramhall)	US VS CS Level 3 (CS)	Form	Customer Service Cockpit	Forms	e:\XGM frm\XCSMCSGP	IFP_GRIDDE		1107 6690hbyz9at
22359	26.02.18.08.27.17	9005	56991	ETARANTINO (Eunice Tarantino)	US VS Accounts Payable (FI)	Form	Match to Receipts	Forms	e:\SQLAP frm\APRMTMCH	AP_RECT_MATCH_PKG		2750 glkR4b9v6x
22360	26.02.18.08.27.17	3268	2139	KNOXNER (Kerstin Monnier)	US ST Vendors Delivery Notes (PI)	Form	Product catalog	Forms	e:\SQLAP frm\XCPBASE	XXPO_ASN_FORM		253 86c47v3q5f
22361	26.02.18.08.27.17	3882	24193	MROLAN (Miss Rolan)	US VS CS Level 3 (CS)	Form	Product catalog	Forms	e:\MOE frm\XCPBASE			34 6v0fw7z8du
22362	26.02.18.08.27.17	5143	39697	FRBOE (Forest Broe)	US ST Assortment Manager (PM)	Form	Product catalog	Forms	e:\XPO frm\XCPBASE	XXPK_PK_ORGANIZATION_DATA_TRG		11 a0kvvv1s0w5
22363	26.02.18.08.27.17	5962	25263	EJOBE (Edra Jobe)	RJ VS Warehouse Operation Controlling (LG)	Form	Collect picking performance	Forms	e:\XSH frm\XCSHPIKING	XXSH_PICKING_FRM_PKG		1374 056pdyrapdrv
22364	26.02.18.08.27.17	3088	25899	CMATEO (Carolee Mabeo)	US VS DGH Warehouse Organization (LG)	Form	Enter goods receipts	Forms	e:\MOE frm\XCPORCV			17m99v5d8d
22365	26.02.18.08.27.17	9563	32501	EMILLETTE (Erin Milllette)	US VS DGH Fault location (LG)	Form	Batch Workbench	Forms	e:\XSH frm\XCSHBNF	XXSH_BATCH_WORKBENCH_UTILS		1744 400rdggdyrv
22366	26.02.18.08.27.18	3005	56991	ETARANTINO (Eunice Tarantino)	US VS Accounts Payable (FI)	Form	Match to Receipts	Forms	e:\SQLAP frm\APRMTMCH	AP_RECT_MATCH_PKG		1955 91qzbfv8b62k
22367	26.02.18.08.27.18	3882	24193	MROLAN (Miss Rolan)	US VS CS Level 3 (CS)	Form	Product catalog	Forms	e:\MOE frm\XCPBASE			a2p8wvqy2d6
22368	26.02.18.08.27.18	5143	39697	FRBOE (Forest Broe)	US ST Assortment Manager (PM)	Form	Product catalog	Forms	e:\XPO frm\XCPBASE	XXPK_PK_ORGANIZATION_DATA_TRG		11 a0kvvv1s0w5
22369	26.02.18.08.27.18	7526	95593	WLABERGE (Wilber Laberge)	US VS DGH Incoming goods discharge (LG)	Form	Enter goods receipts	Forms	e:\MOE frm\XCPORCV			2880 7zb3jmb2t3
22370	26.02.18.08.27.18	9563	32501	EMILLETTE (Erin Milllette)	US VS DGH Fault location (LG)	Form	Batch Workbench	Forms	e:\XSH frm\XCSHBNF			3tr1wbq5jc
22371	26.02.18.08.27.19	3005	56991	ETARANTINO (Eunice Tarantino)	US VS Accounts Payable (FI)	Form	Match to Receipts	Forms	e:\SQLAP frm\APRMTMCH	AP_AP_INVOICE_MATCH_GRP		90 26vrv42gmsh
22372	26.02.18.08.27.19	5143	39697	FRBOE (Forest Broe)	US ST Assortment Manager (PM)	Form	Product catalog	Forms	e:\XPO frm\XCPBASE	XXPK_PK_ORGANIZATION_DATA_TRG		11 a0kvvv1s0w5
22373	26.02.18.08.27.19	7526	95593	WLABERGE (Wilber Laberge)	US VS DGH Incoming goods discharge (LG)	Form	Enter goods receipts	Forms	e:\MOE frm\XCPORCV			
22374	26.02.18.08.27.20	3005	56991	ETARANTINO (Eunice Tarantino)	US VS Accounts Payable (FI)	Form	Match to Receipts	Forms	e:\SQLAP frm\APRMTMCH	AP_RECT_MATCH_PKG		2750 glkR4b9v6x
22375	26.02.18.08.27.20	5143	39697	FRBOE (Forest Broe)	US ST Assortment Manager (PM)	Form	Product catalog	Forms	e:\XPO frm\XCPBASE	XXPK_PK_ORGANIZATION_DATA_TRG		11 a0kvvv1s0w5

Which form did the users wait on?

The screenshot shows an Excel spreadsheet with a PivotTable and the PivotTable Fields task pane. The PivotTable is located in cells A4:B5 and has the following data:

Form	Count of Sample Time
Product catalog	67723
Release detector	6971
Enter goods receipts	6126
Project recording	5951
Return preparation	5191
Picking Monitor	4236
Article Workbench (BETA)	3808
Price changes	2743
Completeness control 2.0	2571
Picking area monitoring	2190
Disposition requirements	1596
Livesticker shipping	1569
Receipts	1513
Run Reports	1472
Invoice Workbench	1433
Merge bundles	1319
Return-Checkpoint	1242
Supply-control station	1218
Shipping logistics control center	1102
Enter delivery notes	856
Collect picking performance	907
Check requirement sums	897
Orders overview (compare)	893
Single Pick place	738
Receipt workbench	725
Collectors	695
open delivery notes	631
Customer Service Workbench	579
Checkin	534
Other container storage	503
Container - suggest storage location	492
Match to Receipts	488
Barcode container label	456
	401

The PivotTable Fields task pane on the right shows the following configuration:

- Choose fields to add to report:
 - Sid Serial#
 - User Name
 - Responsibility
 - Module Type
 - Module Name
 - M- Type
 - Module
 - Program
 - Program Line#
 - Sel Id
 - Plan Mark Value
 - Elapsed Time
 - Percentage
 - Execution Count
 - Sel Exec Start
- Drag fields between areas below:
 - Filters:**
 - Columns:**
 - Rows:** Module Type, Module Name
 - Values:** Count of Sample Time

Which are the worst SQLs and related forms?

The screenshot shows an Excel spreadsheet with a PivotTable. The PivotTable has 'Form' as the row labels and 'Count of Sample Time' as the values. The value for 'bcbafv7ckzdu' is 1819. The PivotTable Fields task pane on the right shows the following configuration:

- Sample Time (checked)
- Sql Id (checked)
- Module Name (checked)
- Module Type (checked)

The task pane also shows a red circle around the 'Module Type', 'Sql Id', and 'Module Name' fields in the VALUES area, indicating they are the 'worst' SQLs and related forms.

Form	Count of Sample Time
(blank)	67723
3acbbagadvw2	10953
Picking Monitor	3620
99mz2jz2fjn	2342
Price changes	2242
bcbafv7ckzdu	1819
Project recording	1841
Product catalog	724
Customer Service Cockpit	58
Universal grid mask	2
92y46mmu5p6j	1559
Product catalog	1551
Material Workbench New	8
0squbh4d14r	1521
Article Workbench (BETA)	1121
7axpfgm5mssx	1390
Unveiler shipping	1390
dcbfw6u656r1	1219
Returns detection	1218
0dfn74b4kkmw8	1055
Run Reports	1055
6naat740gphs	1043
Disposition requirements	1043
fdyf322p2c2x	899
Completeness control 2.0	899
94dbf929du6c	881
Return preparation	881
b30ytd0064q6	869
Picking area monitoring	869
95dmmjan4u00	861
Project recording	798
Product catalog	80
Customer Service Cockpit	1
dubqmmldgvr7d	856

Which sessions and modules were blocked by another module?

The screenshot shows an Oracle SQL Developer PivotTable titled "DBA_AWR_Active_Session_History 26-Nov-2018 20:48 - 3411 blocked sessions only@rac1-6c2". The PivotTable is configured with "Event" as the filter, "Blocking Module Name" as the column, and "Count of Sample Time" as the value. The data is sorted by the count of sample time in descending order.

Event	Blocking Module Name	Count of Sample Time
Concurrent Request		4428
XXSH: Release Release - Worker		858
eng: UL - contention (modem)		662
XXSH: Release Release - Worker		662
latch: free		173
Library cache lock		11
XXSH: Release Release - Worker		11
latch: shared pool		7
XXSH: Print data creation of shipping documents		7
Library cache pin		2
XXSH: Release Release - Worker		2
XXSH: Release Release - Worker PMW		1
log file sync		1
(blank)		1
eng: TQ - DDL contention (modem)		1
XXSH: Picking release - main process		1
Blocking tsn id for DDL		1
XXSH: Picking release - main process		1
XXPF: IPM Ogrum article update		668
eng: TX - rowlock contention (modem)		507
XXPK: Validation and Price Update		507
eng: TX - allocate ITL entry (modem)		104
oracle.apps.egs.item.postCatalogAssignmentChange		4
XXPK: IPM Ogrum article update		109
latch: free		65
log file sync		2
(blank)		2
XXPK: Article update		590
eng: TX - rowlock contention (modem)		429
XXPK: Validation and Price Update		429
read by other session		154
XXPK: Article update		154
latch: free		7
XXPK: Validation and Price Update		358
read by other session		249
Marketing campaigns		68

Which users were affected by a slow forms SQL and wait event?

Module Name	Count of Sample Ids
Blank	10953
SerialsCache2	3620
Picking Monitor	3620
Blank	3608
RSOJARI (Raymond Scharf)	879
DBAHR (Deirdre Bachr)	807
TCHILD (Teresa Schild)	657
CNEBITT (Candice Nesbitt)	277
CFOLDEN (Claretha Falden)	264
BSTUFES (Bart Stufes)	264
PCLONINGER (Fay Cloninger)	161
BFAIRFAX (Evelyn Fairfax)	116
DOFALDI (Dolores O'Fallon)	85
NWARNOCK (Nathaniel Warnock)	55
CRAGMAREK (Clarita Kacmarek)	42
HRECK (Harley Hreck)	20
AWHEELER (Alfonso Wheeler)	15
OBEDLE (Odell Obedle)	9
RMALTY (Raymond Maltby)	7
JHRZG (Jeanette Herzog)	7
LROSENOW (Landon Rosenow)	3
MBRISBIN (Marcell Brisbin)	2
db file sequential read	32
BSTUFES (Bart Stufes)	32
Process (sql)rn	2342
Picks changes	2342
direct path read	2083
HMATTE (Heather Matthe)	459
MNSTRETITA (Mercy Mistretta)	367
AHAUSE (Annetta Hausa)	347
CSARTAIN (Clarissa Sartain)	339
TRACER (Tommy Tracy)	296
JMESZAROS (Jeanene Meszaros)	276
Blank	258
MNSTRETITA (Mercy Mistretta)	54
HMATTE (Heather Matthe)	47



Questions

Questions?