Oracle Performance analysis and optimization

Without Enterprise Edition features like Diagnostic and Tuning Pack

Nature of performance issues

Everything seems slow
A particular work process
Actions by a particular user

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tue 21/03 2023	Available	CPU load	DB Time	CPU Secs	I/O Waits	Commit	Application	Concurrency	Other waits
23:00 - 00:00	114848.00	4.37	5554.63	5019.07	813.92	46.47	0.71	1.09	763.52
22:01 - 23:00	114784.00	6.69	8406.57	7684.74	1271.39	75.65	0.93	1.88	2166.21
21:01 - 22:01	115456.00	3.56	4249.46	4115.40	796.12	122.59	1.93	1.28	2036.30
20:00 - 21:01	115744.00	3.02	3587.62	3497.89	262.97	64.65	5.00	0.04	312.33
19:00 - 20:00	115136.00	3.29	3874.84	3791.50	261.94	68.02	1.07	0.07	326.73
18:00 - 19:00	115264.00	2.92	3446.58	3370.99	238.29	63.20	0.91	0.08	314.80
17:00 - 18:00	115040.00	3.19	3772.90	3672.89	299.68	70.21	0.85	0.07	323.63
16:00 - 17:00	115360.00	3.90	4624.22	4503.24	367.59	84.76	0.91	0.26	335.23
15:00 - 16:00	115040.00	7.83	9337.73	9004.94	801.27	132.99	1.33	0.20	438.66
14:01 - 15:00	114528.00	15.96	18722.93	18284.14	1345.31	243.54	47.84	1.31	749.73
13:00 - 14:01	115776.00	16.87	19916.73	19531.26	1442.70	261.62	7.40	1.19	633.59
12:00 - 13:00	115232.00	15.72	18450.63	18109.39	1199.46	228.20	3.04	0.96	1190.89
11:00 - 12:00	115008.00	18.58	21765.72	21370.08	1568.97	280.43	3.63	0.88	426.50
10:00 - 11:00	115360.00	17.44	20826.61	20121.77	1940.67	257.60	3.07	0.88	405.03
09:00 - 10:00	115264.00	15.51	18878.06	17881.19	2168.26	229.59	2.31	1.21	364.08
08:00 - 09:00	115392.00	14.38	17707.26	16591.09	2212.89	221.38	19.30	0.78	328.20
07:00 - 08:00	115392.00	7.58	9201.92	8746.45	1051.69	131.67	0.95	0.12	176.02
06:00 - 07:00	115104.00	2.39	2798.25	2750.62	188.35	33.10	0.79	0.03	49.52
05:00 - 06:00	115360.00	1.91	2243.87	2199.40	138.45	37.51	0.68	0.06	38.17
04:00 - 05:00	115232.00	1.85	2192.66	2134.21	134.12	23.94	0.73	0.05	38.07
03:00 - 04:00	115232.00	1.94	2298.18	2241.04	153.26	28.16	0.66	0.00	34.98
02:00 - 03:00	115168.00	2.02	2347.35	2328.60	104.39	20.50	0.65	0.33	38.12
01:00 - 02:00	115168.00	2.22	2612.55	2560.12	185.29	39.59	2.59	0.34	49.15
00:00 - 01:00	115136.00	2.96	3722.32	3410.47	592.49	52.12	6.04	0.43	88.35
mon 20/03 2023	Available	CPU load	DB Time	CPU Secs	I/O Waits	Commit	Application	Concurrency	Other waits
23:00 - 00:00	115232.00	2.07	2419.36	2381.13	184.47	42.74	0.76	0.01	75.38
22:00 - 23:00	114592.00	5.30	6568.46	6069.84	721.46	59.71	1.10	3.40	121.44
21:00 - 22:00	115456.00	3.00	3533.10	3468.31	231.55	83.38	0.88	0.15	98.90
20:00 - 21:00	115520.00	3.10	3643.50	3584.15	226.67	64.72	1.15	0.06	98.48
19:00 - 20:00	115168.00	3.16	3701.04	3638.55	218.90	65.15	1.51	0.04	109.31
18:00 - 19:00	115296.00	2.88	3378.13	3322.81	198.81	59.05	1.00	0.05	98.04
17:00 - 18:00	114944.00	3.31	3906.77	3808.84	283.02	68.10	0.96	0.06	104.39
16:00 - 17:00	115360.00	3.91	4665.76	4513.51	374.01	75.63	0.88	0.07	119.43
15:00 - 16:00	115040.00	7.03	8255.85	8087.55	601.52	126.28	1.07	0.15	203.57
14:01 - 15:00	114720.00	15.47	18319.37	17751.09	1587.93	226.33	3.13	0.75	584.41
13:00 - 14:01	115680.00	15.67	18694.23	18126.44	1651.25	240.07	4.47	0.82	598.27
12:00 - 13:00	115136.00	12.86	15366.53	14803.45	1430.51	205.52	37.45	0.62	548.31
11:01 - 12:00	112992.00	43.95	50866.20	49658.05	2019.88	306.41	3.86	3.68	820.86
10:01 - 11:01	115296.00	65.82	77426.85	75885.70	2439.27	356.34	9.08	4.28	946.38
09:01 - 10:01	116832.00	33.97	40569.37	39689.97	2216.92	277.93	4.71	2.20	698.67
08:01 - 09:01	115264.00	16.06	19690.46	18516.14	2450.40	243.35	5.88	1.56	617.43
07:00 - 08:01	115616.00	7.84	9519.00	9060.17	1087.03	136.66	1.92	0.23	401.37

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Version	19.0.0.0.0
Period prev next	mon 20/03 10:01 - mon 20/03 11:01

SQL-statements ordered by CPU Time

SQL Id	Rows	Execs	Parses	Buffer gets	Disk reads	CPU time	% CPU	Ela. time	% Ela.
5at6pn3s2wn5k	40235	2145	2145	1986160578	0	42151.89	58.61	42509.93	56.84
7qyat7fzgfg2a	119464	119463	119439	114090228	6317	3528.71	4.91	3563.10	4.76
2ns6w6uxx708z	3452083	3452148	18479	8105803	51568	784.76	1.09	811.42	1.08
7xqcdt9mrqgmx	6324795	962227	957714	40721272	128368	709.83	0.99	786.78	1.05
682tdqv31tv7j	434	1777	1777	7596400	133	547.74	0.76	550.85	0.74
8f37qbwzzdfz3	9743	9743	9743	21375331	39222	546.96	0.76	620.99	0.83
c5aps9r36a7mn	892	42	42	88291403	955	511.95	0.71	530.01	0.71
2f8yz88sh0t6p	7338214	119729	12809	38007504	0	511.94	0.71	516.76	0.69
54cguv3ab6nnn	7396172	119452	12248	39332248	0	496.95	0.69	501.32	0.67
5pgyrm3pz5h6s	4931664	114825	114807	41537979	0	484.18	0.67	493.25	0.66

SQL-statements ordered by Elapsed Time per Excecution

SQL Id	Rows	Execs	Parses	Buffer gets	Disk reads	CPU time	% CPU	Ela. time	% Ela.	Ela/Exe
0jjdbp6vwjq51	0	1	1	8775536	19225	187.77	0.26	250.54	0.34	250.54
dyf12zvjqdu1y	0	1	1	1319466	24134	109.21	0.15	118.22	0.16	118.22
dxw5pjuqa4rcd	4	4	4	19641980	196290	411.17	0.57	452.74	0.61	113.19
0v59ypzsrmsq4	514220	1	1	687126	3848	64.75	0.09	66.98	0.09	66.98
6kp6tkj7acuta	296	1	1	28212	9	2.13	0.00	54.45	0.07	54.45
7wdr52dhw9sju	93111	1	1	2330390	17984	38.97	0.05	42.78	0.06	42.78
1w0zunzy9x2mc	2	2	2	339807	37658	83.07	0.12	83.99	0.11	42.00
g1xzmat8jwn97	150725	12	12	15607279	164	240.42	0.33	242.63	0.32	20.22
5at6pn3s2wn5k	40235	2145	2145	1986160578	0	42151.89	58.61	42509.93	56.84	19.82
0az7czjdw8z7j	0	1	1	0	0	14.73	0.02	15.50	0.02	15.50

SQL-statements ordered by Elapsed Time

SQL Id	Rows	Execs	Parses	Buffer gets	Disk reads	CPU time	% CPU	Ela. time	% Ela.
5at6pn3s2wn5k	40235	2145	2145	1986160578	0	42151.89	58.61	42509.93	56.84
7qyat7fzgfg2a	119464	119463	119439	114090228	6317	3528.71	4.91	3563.10	4.76
2ns6w6uxx708z	3452083	3452148	18479	8105803	51568	784.76	1.09	811.42	1.08
7xqcdt9mrqgmx	6324795	962227	957714	40721272	128368	709.83	0.99	786.78	1.05
8f37qbwzzdfz3	9743	9743	9743	21375331	39222	546.96	0.76	620.99	0.83
682tdqv31tv7j	434	1777	1777	7596400	133	547.74	0.76	550.85	0.74
c5aps9r36a7mn	892	42	42	88291403	955	511.95	0.71	530.01	0.71
04wvmyzrnhhbr	1974076	1974482	1972901	16126959	310889	457.93	0.64	528.30	0.71
2f8yz88sh0t6p	7338214	119729	12809	38007504	0	511.94	0.71	516.76	0.69
54cguv3ab6nnn	7396172	119452	12248	39332248	0	496.95	0.69	501.32	0.67

20/03 2023	Plan	User	Rows	Execs	Parses	Buffer gets	Disk reads	CPU time (s)	Ela. time (s)	Appl. time (s)	Con. time (s)	IO time (s)	% CPU	% BG	CPU/Exe (ms)	Ela/Exe (ms)	BG/Exe	Row/Exe	BG/Row
23:00 - 00:00	2920171120	BOM	0	326	326	8150	0	0.18	0.18	0.00	0.00	0.00	0.0	0.0	0.5	0.5	25.0	0.0	8150.0
22:00 - 23:00	769972202	BOM	0	420	421	10586	0	0.25	0.25	0.00	0.00	0.00	0.0	0.0	0.6	0.6	25.2	0.0	10586.0
22:00 - 23:00	2920171120	BOM	0	222	221	5658	0	0.39	0.39	0.00	0.00	0.00	0.0	0.0	1.7	1.7	25.5	0.0	5658.0
21:00 - 22:00	769972202	BOM	0	752	752	20797	0	0.44	0.44	0.00	0.00	0.00	0.0	0.0	0.6	0.6	27.7	0.0	20797.0
20:00 - 21:00	769972202	BOM	0	1291	1291	40064	0	0.76	0.76	0.00	0.00	0.00	0.0	0.0	0.6	0.6	31.0	0.0	40064.0
19:00 - 20:00	769972202	BOM	0	1569	1569	48759	0	0.97	0.97	0.00	0.00	0.00	0.0	0.0	0.6	0.6	31.1	0.0	48759.0
18:00 - 19:00	769972202	BOM	0	1788	1788	56168	0	1.04	1.04	0.00	0.00	0.00	0.0	0.0	0.6	0.6	31.4	0.0	56168.0
17:00 - 18:00	769972202	BOM	0	1869	1869	58870	0	1.11	1.11	0.00	0.00	0.00	0.0	0.0	0.6	0.6	31.5	0.0	58870.0
16:00 - 17:00	769972202	BOM	0	2146	2146	78521	0	1.35	1.35	0.00	0.00	0.00	0.0	0.0	0.6	0.6	36.6	0.0	78521.0
15:00 - 16:00	769972202	BOM	0	2141	2141	87737	0	1.50	1.50	0.00	0.00	0.00	0.0	0.0	0.7	0.7	41.0	0.0	87737.0
14:01 - 15:00	769972202	BOM	32226	4829	4829	1478139	0	13.94	13.95	0.00	0.00	0.00	0.1	0.1	2.9	2.9	306.1	6.7	45.9
13:00 - 14:01	769972202	BOM	108274	6940	6941	4252936	0	33.22	33.24	0.00	0.00	0.00	0.2	0.3	4.8	4.8	612.8	15.6	39.3
12:00 - 13:00	769972202	BOM	119625	6635	6634	4801018	0	33.60	33.61	0.00	0.00	0.00	0.3	0.4	5.1	5.1	723.6	18.0	40.1
11:01 - 12:00	769972202	BOM	56374	2928	2928	2146336	1	17.10	18.33	0.00	1.24	0.00	0.1	0.2	5.8	6.3	733.0	19.3	38.1
10:01 - 11:01	3905308476	BOM	40235	2145	2145	1986160578	0	42151.89	42509.93	0.00	0.01	0.00	58.6	59.4	19651.2	19818.1	925949.0	18.8	49364.0
09:01 - 10:01	1180348226	BOM	47	1	1	3595	0	0.49	0.49	0.00	0.00	0.00	0.0	0.0	493.6	493.6	3595.0	47.0	76.5
09:01 - 10:01	2361720340	BOM	69230	3071	3072	7985005	0	66.09	66.13	0.00	0.00	0.00	0.2	0.2	21.5	21.5	2600.1	22.5	115.3
09:01 - 10:01	3905308476	BOM	23563	1172	1172	2844240218	971	17345.81	17382.20	0.00	0.80	0.94	46.5	69.9	14800.2	14831.2	2426826.1	20.1	120707.9
08:01 - 09:01	2361720340	BOM	98123	5285	5286	10294033	0	91.86	91.90	0.00	0.00	0.00	0.6	0.8	17.4	17.4	1947.8	18.6	104.9
07:00 - 08:01	2361720340	BOM	56202	3095	3095	3527305	0	35.42	35.42	0.00	0.00	0.00	0.5	0.5	11.4	11.4	1139.7	18.2	62.8
06:00 - 07:00	2361720340	BOM	36	4	4	2097	0	0.03	0.03	0.00	0.00	0.00	0.0	0.0	8.1	8.1	524.3	9.0	58.3
18/03 2023	Plan	User	Rows	Execs	Parses	Buffer gets	Disk reads	CPU time (s)	Ela. time (s)	Appl. time (s)	Con. time (s)	IO time (s)	% CPU	% BG	CPU/Exe (ms)	Ela/Exe (ms)	BG/Exe	Row/Exe	BG/Row
00:01 - 01:02	2361720340	BOM	0	208	208	673469	0	5.71	5.72	0.00	0.00	0.00	0.1	0.4	27.5	27.5	3237.8	0.0	673469.0
17/03 2023	Plan	User	Rows	Execs	Parses	Buffer gets	Disk reads	CPU time (s)	Ela. time (s)	Appl. time (s)	Con. time (s)	IO time (s)	% CPU	% BG	CPU/Exe (ms)	Ela/Exe (ms)	BG/Exe	Row/Exe	BG/Row
23:01 - 00:01	2361720340	BOM	0	355	355	1152287	0	9.82	9.83	0.00	0.00	0.00	0.3	0.6	27.7	27.7	3245.9	0.0	1152287.0
22:01 - 23:01	842486501	BOM	0	738	739	1402610	0	19.52	19.52	0.00	0.00	0.00	0.2	0.4	26.4	26.5	1900.6	0.0	1402610.0
22:01 - 23:01	2361720340	BOM	0	259	258	1011259	0	10.14	10.14	0.00	0.00	0.00	0.1	0.3	39.2	39.2	3904.5	0.0	1011259.0
22:01 - 23:01	4064714315	BOM	0	1	1	5963	0	0.61	0.61	0.00	0.00	0.00	0.0	0.0	610.3	610.3	5963.0	0.0	5963.0
21:01 - 22:01	842486501	BOM	0	1430	1430	2723732	0	36.20	36.27	0.00	0.00	0.00	0.7	0.9	25.3	25.4	1904.7	0.0	2723732.0
20:01 - 21:01	842486501	BOM	0	1427	1427	2721711	0	22.02	22.02	0.00	0.00	0.00	0.8	0.8	15.4	15.4	1907.3	0.0	2721711.0
19:01 - 20:01	842486501	BOM	0	1427	1427	2742920	0	23.11	23.12	0.00	0.00	0.00	0.7	0.8	16.2	16.2	1922.2	0.0	2742920.0
18:01 - 19:01	842486501	BOM	0	1429	1429	2747117	0	22.31	22.32	0.00	0.00	0.00	0.7	0.8	15.6	15.6	1922.4	0.0	2747117.0
17:01 - 18:01	842486501	BOM	0	1425	1425	2748846	0	22.41	22.41	0.00	0.00	0.00	0.7	0.8	15.7	15.7	1929.0	0.0	2748846.0
16:01 - 17:01	842486501	BOM	0	1430	1430	2776362	0	22.87	22.88	0.00	0.00	0.00	0.6	0.7	16.0	16.0	1941.5	0.0	2776362.0
15:01 - 16:01	842486501	BOM	0	1424	1424	2803052	0	25.47	25.47	0.00	0.00	0.00	0.4	0.5	17.9	17.9	1968.4	0.0	2803052.0
14:01 - 15:01	842486501	BOM	25543	3690	3692	8192484	0	80.63	80.66	0.00	0.00	0.00	0.7	0.8	21.9	21.9	2220.2	6.9	320.7
13:01 - 14:01	842486501	BOM	118209	5798	5799	15065460	0	148.41	148.44	0.00	0.00	0.00	1.0	1.2	25.6	25.6	2598.4	20.4	127.4
12:01 - 13:01	842486501	BOM	88317	5260	5260	13593184	0	128.68	128.77	0.00	0.00	0.00	1.0	1.3	24.5	24.5	2584.3	16.8	153.9
11:01 - 12:01	842486501	BOM	85058	5199	5199	14171594	0	150.55	150.62	0.00	0.00	0.00	0.7	1.1	29.0	29.0	2725.8	16.4	166.6
10:01 - 11:01	842486501	BOM	79464	5216	5216	14799656	0	144.38	144.42	0.00	0.00	0.00	0.8	1.2	27.7	27.7	2837.4	15.2	186.2
09:01 - 10:01	842486501	BOM	62989	4604	4604	13262980	0	119.94	119.97	0.00	0.00	0.00	0.8	1.1	26.1	26.1	2880.8	13.7	210.6

```
alter session set nls_date_format = 'dd/mm-yyyy hh24:mi:ss';

set tab off
set lines 172
set pages 999

select sql_id, child_number, plan_hash_value,
      last_active_time, executions,
      round(buffer_gets/greatest(executions, 1)) bg_exe,
      round(rows_processed/greatest(executions, 1)) rw_exe,
      round((cpu_time/greatest(executions, 1))/1000) c_ms_exe,
      round((elapsed_time/greatest(executions, 1))/1000) e_ms_exe
  from v$sql
  where sql_id in ('5at6pn3s2wn5k')
  order by sql_id, parsing_schema_name, last_active_time
/
```

SQL_ID	CHILD_NUMBER	PLAN_HASH_VALUE	LAST_ACTIVE_TIME	EXECUTIONS	BG_EXE	RW_EXE	C_MS_EXE	E_MS_EXE
5at6pn3s2wn5k	2	3059247166	16/03-2023 06:53:27	10550	4387	0	31	31
5at6pn3s2wn5k	3	3792174496	17/03-2023 06:48:05	61790	381	8	3	3
5at6pn3s2wn5k	5	842486501	17/03-2023 22:35:50	48283	2497	11	24	24
5at6pn3s2wn5k	6	2361720340	17/03-2023 22:35:50	1	3339	0	731	731
5at6pn3s2wn5k	7	4064714315	17/03-2023 22:35:52	1	5963	0	610	610
5at6pn3s2wn5k	8	2361720340	20/03-2023 09:34:29	12276	2007	18	18	18
5at6pn3s2wn5k	0	1180348226	20/03-2023 09:34:30	1	3595	47	494	494
5at6pn3s2wn5k	1	3905308476	20/03-2023 10:38:18	2564	957007	20	17019	17143

```
SQL_ID        CHILD_NUMBER PLAN_HASH_VALUE LAST_ACTIVE_TIME    EXECUTIONS     BG_EXE     RW_EXE   C_MS_EXE   E_MS_EXE
------------- ------------ --------------- -------------------- ---------- ---------- ---------- ---------- ----------
5at6pn3s2wn5k            3      3792174496 17/03-2023 06:48:05      61790        381          8          3          3
5at6pn3s2wn5k            1      3905308476 20/03-2023 10:38:18       2564     957007         20      17019      17143
```

set lines 172

select * from TABLE(dbms_xplan.display_cursor('&sql_id', &child, 'alias outline'))
/

Output in this case is very long and only the most crucial lines are included here

Plan hash value: 3792174496 -- most effective plan

```
LEADING(@"SEL$5908687B" "KOKBF$0"@"SEL$26" "QA"@"SEL$23" "QO"@"SEL$19" "QN"@"SEL$15" "FT"@"SEL$13" "LOK"@"SEL$9" "ST"@"SEL$11" "AFT"@"SEL$2"
        "AFD"@"SEL$8" "OPG"@"SEL$3" "CONF"@"SEL$7" "OPT"@"SEL$4" "AFT"@"SEL$23" "REKV"@"SEL$17" "ATP"@"SEL$34" "ARK"@"SEL$5" "K"@"SEL$21"
        "AFS"@"SEL$6" "KOKBF$2"@"SEL$40" "KOKBF$1"@"SEL$28")
LEADING(@"SEL$BB69FE5A" "A"@"SEL$32" "O"@"SEL$30" "T"@"SEL$31")
```

Plan hash value: 3905308476 -- least effective plan

```
LEADING(@"SEL$5908687B_1" "QA"@"SEL$23" "REKV"@"SEL$17" "LOK"@"SEL$9" "ST"@"SEL$11" "QN"@"SEL$15" "FT"@"SEL$13" "QO"@"SEL$19" "ATP"@"SEL$34"
        "KOKBF$0"@"SEL$26" "AFT"@"SEL$2" "AFD"@"SEL$8" "OPG"@"SEL$3" "OPT"@"SEL$4" "CONF"@"SEL$7" "ARK"@"SEL$5" "K"@"SEL$21" "AFS"@"SEL$6"
        "KOKBF$2"@"SEL$40" "AFT"@"SEL$23" "KOKBF$1"@"SEL$28")
LEADING(@"SEL$5908687B_2" "QA"@"SEL$5908687B_2" "AFS"@"SEL$5908687B_2" "ARK"@"SEL$5908687B_2" "K"@"SEL$5908687B_2" "AFT_0001"@"SEL$5908687B_2"
        "AFD"@"SEL$5908687B_2" "OPG"@"SEL$5908687B_2" "CONF"@"SEL$5908687B_2" "OPT"@"SEL$5908687B_2" "QO"@"SEL$5908687B_2" "QN"@"SEL$5908687B_2"
        "FT"@"SEL$5908687B_2" "LOK"@"SEL$5908687B_2" "ST"@"SEL$5908687B_2" "AFT_0002"@"SEL$5908687B_2" "REKV"@"SEL$5908687B_2" "ATP"@"SEL$5908687B_2"
        "KOKBF$2"@"SEL$5908687B_2" "KOKBF$0"@"SEL$5908687B_2" "KOKBF$1"@"SEL$5908687B_2")
LEADING(@"SEL$BB69FE5A" "A"@"SEL$32" "O"@"SEL$30" "T"@"SEL$31")
```

SQL Patch with a leading hint:

```
declare
  patch_name varchar2(32767);
begin
  patch_name := sys.dbms_sqldiag.create_sql_patch(
    sql_id    => '5at6pn3s2wn5k',
    hint_text => 'leading(@"SEL$5908687B" "KOKBF$0"@"SEL$26" "QA"@"SEL$23")',
    name      => 'leading hint for 5at6pn3s2wn5k'
  );
end;
/
```

Can be removed with:

```
exec dbms_sqldiag.drop_sql_patch('leading hint for 5at6pn3s2wn5k');
```

select ... from v$sql where sql_id in ('5at6pn3s2wn5k') ...

SQL_ID	CHILD_NUMBER	PLAN_HASH_VALUE	LAST_ACTIVE_TIME	EXECUTIONS	BG_EXE	RW_EXE	C_MS_EXE	E_MS_EXE
5at6pn3s2wn5k	2	3059247166	16/03-2023 06:53:27	10550	4387	0	31	31
5at6pn3s2wn5k	3	3792174496	17/03-2023 06:48:05	61790	381	8	3	3
5at6pn3s2wn5k	5	842486501	17/03-2023 22:35:50	48283	2497	11	24	24
5at6pn3s2wn5k	6	2361720340	17/03-2023 22:35:50	1	3339	0	731	731
5at6pn3s2wn5k	7	4064714315	17/03-2023 22:35:52	1	5963	0	610	610
5at6pn3s2wn5k	8	2361720340	20/03-2023 09:34:29	12276	2007	18	18	18
5at6pn3s2wn5k	0	1180348226	20/03-2023 09:34:30	1	3595	47	494	494
5at6pn3s2wn5k	1	3905308476	20/03-2023 10:38:18	2564	957007	20	17019	17143
-- sql Patch with leading hint								
5at6pn3s2wn5k	2	769972202	20/03-2023 11:33:14	265	783	20	10	15

Trace one or more sessions:

```
create  trigger MirLogonTrg
after logon on <skema navn>.schema
begin
   execute immediate 'alter session set "_rowsource_execution_statistics" = true';
   execute immediate 'alter session set tracefile_identifier = JVD01';
   execute immediate 'alter session set events ''10046 trace name context forever, level 16''';
end;
/

show errors

-- Remember to remove the trigger again when done:
drop trigger MirLogonTrg;

-- find trace file:
cd /u01/app/oracle/diag/rdbms/sid/SID/trace/

ls -lrt  | grep JVD

-- run tkprof with sort options to get the most time consuming query at the top:

tkprof sort=prsela,exeela,fchela
```

Trace executions of a particular query:

```
alter system set events 'sql_trace[SQL:5at6pn3s2wn5k] plan_stat=all_executions, wait=true, bind=false';

select executions, last_active_time from v$sql where sql_id = '5at6pn3s2wn5k';

-- Remember to turn off trace again:

alter system set events 'sql_trace[SQL:5at6pn3s2wn5k] off';


-- find trace file:

cd /u01/app/oracle/diag/rdbms/sid/SID/trace/

grep "5at6pn3s2wn5k" /u01/app/oracle/diag/rdbms/sid/SID/trace/*.trc

-- run tkprof with sort options to get the most time consuming query at the top :

tkprof sort=prsela,exeela,fchela
```

Building today's and tomorrow's IT. Together.

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