ORACLE

Oracle Database Performance Tuning Using oratop

Tips and tricks

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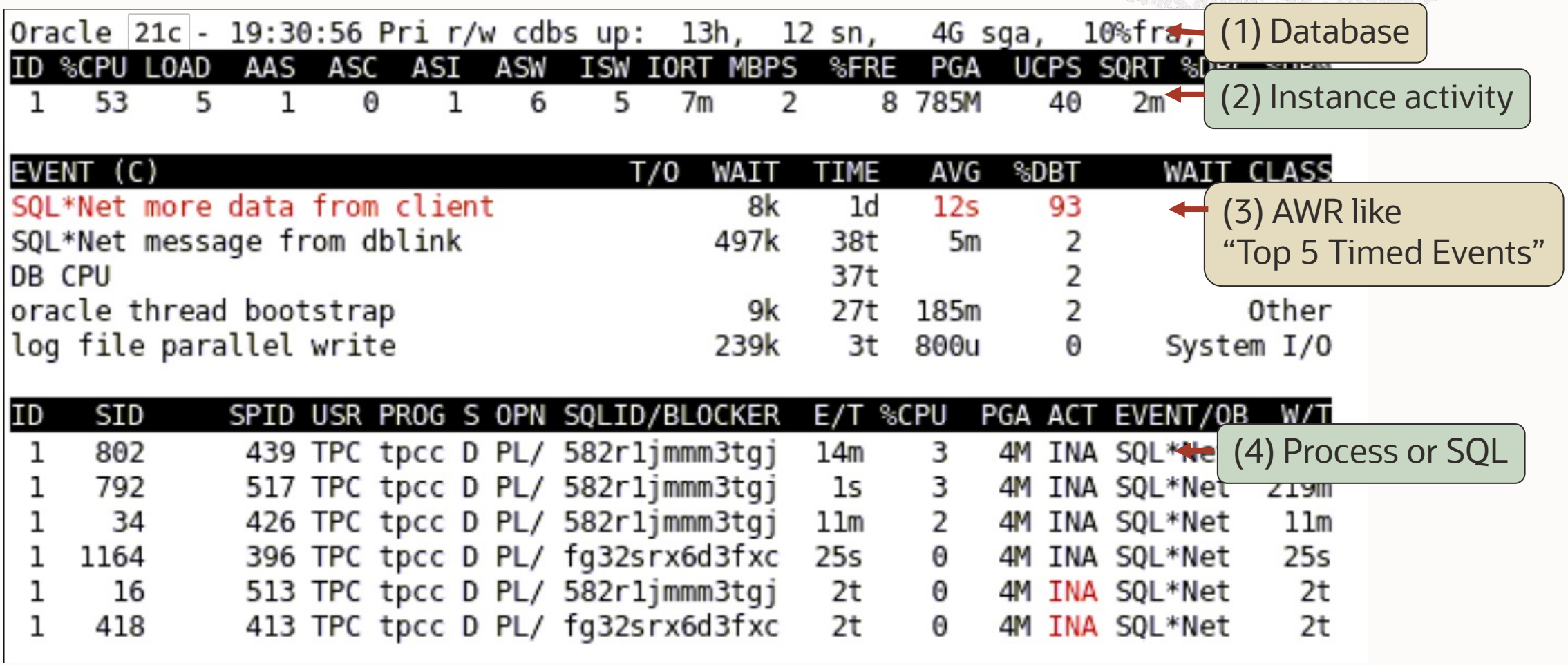
What is oratop

A text-based interface like “top”, which can be run against Real Application Cluster (RAC) or non-RAC databases

It provides the ability to monitor the database in near real time

Visual layout



Command line mode

```
$ export ORACLE_HOME=<path>
$ export LD_LIBRARY_PATH=$ORACLE_HOME/lib
$ export PATH=$ORACLE_HOME/bin:$ORACLE_HOME/suptools/oratop:$PATH
```

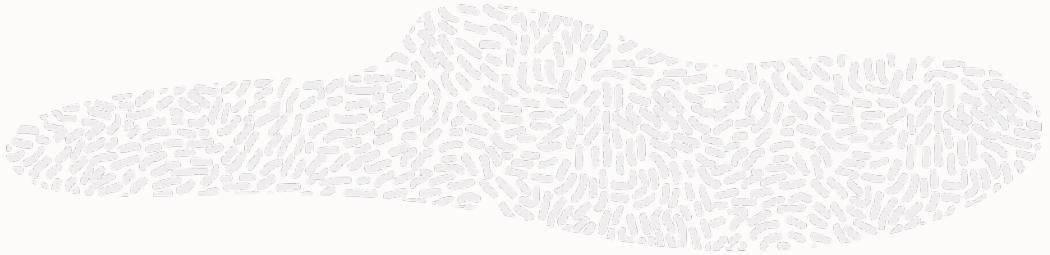
```
$ ./oratop -h
```

```
oratop: Release 16.5.1

The oratop program provides a dynamic near real-time view of an open database
It also provides a limited on-line interactive interface.

Usage:
    oratop [ [Options] [Logon] ]

    Logon:  {username[@connect_identifier] | / } [AS SYSDBA]
    Password is prompted and the connect_identifier is TNS/ EZconnect
```

```
Options:
          -b: batch mode. Used with -n iteration (default is console)
          -n: maximum number of iterations (requires a value)
          -o: Write console output to a file (in batch mode)
          -i: interval delay (requires a value, default: 5)
          -r: real-time (RT) wait events. (section 3, default: Cumulative)
          -m: Session/Process MODULE/ACTION (default: USERNAME/PROGRAM)
          -s: SQL mode. (section 4, default: session/process mode)
          -f: detailed format, 132 columns. (default: standard, 80 columns)
          -v: oratop release version number
          -h: this help
```



Login



Connection method is like sqlplus

```
$ oratop / as sysdba
```

Connecting “ / as sysdba“ is allowed only for bequeath connections

The remote database requires setting the parameter “REMOTE_LOGIN_PASSWORDFILE” paired with the availability of an Oracle password file.

Login



TNS:
export TNS_ADMIN and connect with a TNS alias name as defined in tnsnames.ora

EZConnect, example:

```
oratop sys@rmtdbhost:1521/db1.domain.com as sysdba
```

TWO_TASK can be set with any of the above for ease of use, example

```
$ export TWO_TASK= rmtdbhost:1521/db1.domain.com
$ ./oratop sys as sysdba
oratop: Release 16.5.1 Production on Fri Feb 11 05:54:50 UTC 2022
Copyright (c) 2011, Oracle. All rights reserved.
Enter password:
```

Interactive Mode

Options can be seen after starting the utility followed by pressing the keyboard key ‘h’

```
oratop: Release 16.5.1
```

```
Interactive Keys: [default]
         f : toggle between [standard] & detailed format
         r : toggle between [Cumulative ©] & Real-Time (RT) (section 3)
         s : switch to SQL mode (section 4)
         p : switch to [session/process] mode (section 4)
         m : Toggle session [USERNAME/PROGRAM] & MODULE/ACTION (sections 4)
         t : tablespace information (N/A on standby)
         x : SQL plan table (requires a value)
         I : refresh interval, requires value in seconds [5]
         q : quit/ exit program
       Esc : pause.
```

```
Symbols:
       (B)tyle, (K)illo, (M)ega, (G)iga, (T)err, [PEXY]
       (u)micro, (m)illi, (s)econd, minu(t)e, (h)our, (d)ay, (y)ear
       [60s/ 15s] – metric interval size, else current.
```

```
Abbreviations Help Menu:
       Section 1 – DATABASE          .. [1]
       Section 2 – INSTANCE          .. [2]
       Section 3 – DB WAIT EVENTS    .. [3]
       Section 4 – SESSION/PROCESS   .. [4]
       Quit Help                     .. (q|Q)

Enter selection number:
```

Miscellaneous

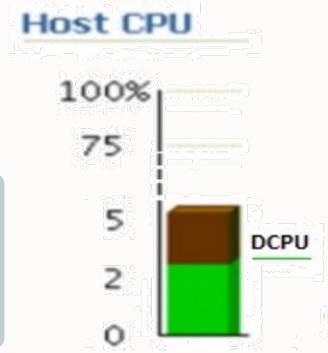
Values appearing in RED color

Values flagged and highlighted in red color are merely an emphasis of warning

Header's "archivelog" and "er" (incidents) These two values are static, they are acquired once upon start of monitoring only. They are not auto refreshed because the first incur expensive recursive query and the second adds to diagnosability database waits

Header's %DCP

Column "%DCP" (in section 2) is the database instance cpu usage as %CPU of the host



Tablespaces listing

A list of all the tablespaces (cdb and pdb) can be obtained online with keyboard key press 't'

Wait Events (section 3)

Keyboard key press 'r' will toggle the wait event section between Cumulative and Realtime. For C, the stats shown is the accumulation since the last database restart

Miscellaneous

Detailed format (long)

Oracle 21c - 19:55:57 Primary r/w cdbs up: 13h, 11 sn, 1 ins, 1 pdb, 0 er, 6.9G sz, 3.7G sga, 10.4%fra, archivelog 12.2%db

ID	CPU	%CPU	LOAD	AAS	ASC	ASI	ASW	ISW	REDO	TEMP	IORT	MBPS	IOPS	R/S	W/S	LIO	GCPS	%FRE	PGA	NETV	UTPS	UCPS	SQRT	%DBC	%DBW
1	4	56.9	3.8	0.5	0	0	6	5	158k	12M	7.3m	0.9	375	8.2	324	3k	0	9.6	527M	362k	18.0	42.2	1.1m	3.8	8.4

EVENT (RT)	SESSIONS	WAIT	TIME	AVG	%DBT	WAIT_CLASS
SQL*Net more data from client	2	2.2k	2.0t	55m	84.9	Network
SQL*Net message from dblink		720	5.6s	7.8m	4.0	Network
Sharding: commit		1k	3.2s	3.1m	2.3	Commit
oracle thread bootstrap		13	3.2s	247m	2.3	Other
db file sequential read		279	2.2s	7.8m	1.5	User I/O

ID	SID	SPID	USERNAME	PROGRAM	SRV	SERVICE	OPN	SQLID/BLOCKER	E/T	%CPU	%LIO	PGA	STS	STE	WAIT_CLASS	EVENT/OBJECT NAME	W/T
1	400	9556	TPCC	tpcc.exe@	DED	wsvc	PL/	gz8100xp0fbc9	248m	3.1	47.8	4.2M	INA	WAI	Idle	SQL*Net message fro	248m
1	407	9586	TPCC	tpcc.exe@	DED	wsvc	PL/	582r1jmmm3tgj	242m	2.6	36.2	3.8M	INA	WAI	Idle	SQL*Net message fro	242m
1	414	9615	TPCC	tpcc.exe@	DED	wsvc	PL/	fg32srx6d3fxc	94m	1.2	12.8	3.5M	INA	WAI	Idle	SQL*Net message fro	94m
1	798	9599	TPCC	tpcc.exe@	DED	wsvc	PL/	582r1jmmm3tgj	16s	0.2	2.4	3.7M	INA	WAI	Idle	SQL*Net message fro	16s
1	1160	9573	TPCC	tpcc.exe@	DED	wsvc	PL/	fg32srx6d3fxc	47s	0	0	3.8M	INA	WAI	Idle	SQL*Net message fro	47s

Note. in RAC environment, while section 2 (instance section) is restricted to the top 5 instances in the text-based user interface, all of the available instances will be listed in the batch mode.

Batch Mode

Batch mode is applicable at the command line with the relevant input options.

```
$ ./oratop / sysdba -bn1
```

```
oratop: Release 16.5.1 Production on Fri Apr 28 19:42:40 UTC 2023
Copyright (c) 2011, Oracle. All rights reserved.
Enter password:
Connecting
```

```
Cycle 1 - oratop: Release 16.5.1 Production on Fri Apr 28 19:42:49 UTC 2023
Oracle 21c - 19:41:56 Pri r/w cdbs up: 13h, 12 sn, 4G sga, 10%fra, 15%db
ID %CPU LOAD AAS ASC ASI ASW ISW IORT MBPS %FRE PGA UCPS SQRT %DBC %DBW
------------------------------------------------------------------------------
 1 51 3 1 0 0 6 6 17m 2 8 834M 42 1m 4 11
EVENT (C) T/O WAIT TIME AVG %DBT WAIT_CLASS
------------------------------------------------------------------------------
SQL*Net more data from client 31k 1d 3s 93 Network
SQL*Net message from dblink 505k 39t 5m 2 Network
DB CPU 39t 2
oracle thread bootstrap 9k 27t 186m 2 Other
db file sequential read 35k 4t 6m 0 User I/O
ID SID SPID USR PROG S OPN SQLID/BLOCKER E/T %CPU PGA ACT EVENT/OB W/T
------------------------------------------------------------------------------
 1 792 517 TPC tpcc D PL/ 582r1jmmm3tgj 3s 3 4M INA SQL*Net 3s
 1 802 439 TPC tpcc D PL/ 582r1jmmm3tgj 184m 3 4M INA SQL*Net 184m
 1 418 413 TPC tpcc D PL/ 582r1jmmm3tgj 185m 1 4M INA SQL*Net 185m
```

```
Cycle 2 - oratop: Release 16.5.1 Production on Fri Apr 28 19:42:54 UTC 2023
Oracle 21c - 19:41:56 Pri r/w cdbs up: 13h, 12 sn, 4G sga, 10%fra, 15%db
ID %CPU LOAD AAS ASC ASI ASW ISW IORT MBPS %FRE PGA UCPS SQRT %DBC %DBW
------------------------------------------------------------------------------
 1 51 3 1 0 0 6 6 17m 2 8 834M 42 1m 4 11
EVENT (C) T/O WAIT TIME AVG %DBT WAIT_CLASS
```

SQL

Oracle 21c - sh1 02:01:57 up: 4.3d, 2 ins, 128 sn, 1 us, 10G sga, 84.6%db

ID	%CPU	%DCP	LOAD	AAS	ASC	ASI	ASW	IDL	MBPS	%FR	PGA	UTPS	RT/C	DCTR	DWTR
2	19.2	13.7	10.2	39.2	11	4	22	26	100M	7	3.1G	656	56m	17	81
1	20.3	16.9	15.6	42.0	15	1	22	27	104M	14	2.7G	719	48m	16	78

EVENT (C)	TOT WAITS	TIME(s)	AVG MS	PCT	WAIT CLASS
log file sync	17841193	266406	14.1	39	Commit
DB CPU		154327		23	
gc current block busy	71129790	108578	1.5	16	Cluster
gc buffer busy acquire	8896661	73845	9.9	11	Cluster
enq: TX - row lock contention	3220952	71866	24.0	11	Application

ID	USER	SQL_ID	SQL_TEXT	X	ELAP	EXEC	ROWS	BH%	LOAD
1	TPCC	00b6x98mnx89t	SELECT count (DISTINC	S	271m	12k	0	100	15
2	TPCC	00b6x98mnx89t	SELECT count (DISTINC	S	239m	7.5k	0	100	9
1	TPCC	ah1vrygbhqdry	DELETE FROM NORD N WH	S	33m	12k	9	100	2

SQL Plan

SQL (key press '**x**')

```
Oracle 21c - 20:05:55 Pri r/w cdbs up:  13h,  12 sn,   4G sga,  10%fra,   13%db
ID %CPU LOAD  AAS  ASC  ASI  ASW  ISW IORT MBPS  %FRE  PGA  UCPS SQRT %DBC %DBW
 1   49    6    1    0    0    6    6  11m    1     9 536M    43 987u    4   10

EVENT (RT)                              SESS  WAIT  TIME   AVG  %DBT     WAIT_CLASS
SQL*Net more data from client              2    2k    2t   56m    81        Network
SQL*Net message from dblink                   720    8s   11m     5        Network
Sharding: commit                              1k    5s    4m     3         Commit
oracle thread bootstrap                       13    3s  231m     2          Other
Sharding: replication log                     4k    3s  631u     2      System I/O

ID   SID     SPID USR PROG S OPN SQLID/BLOCKER  E/T %CPU  PGA ACT EVENT/OB  W/T
 1   400     9556 TPC tpcc D UPD 4mfv9xfuxbfhw 124m    2   4M ACT CPU Runq 124m
 1   798     9599 TPC tpcc D PL/ gz8100xp0fbc9   5s    3   4M INA SQL*Net    5s
 1    16    10939 TPC tpcc D PL/ fg32srx6d3fxc   5s    1   3M INA SQL*Net    6s
 1   414     9615 TPC tpcc D PL/ 582r1jmmm3tgj  10m    1   4M INA SQL*Net   10m
 1  1160     9573 TPC tpcc D PL/ gz8100xp0fbc9  11m    0   4M INA SQL*Net   11m
 1   407     9586 TPC tpcc D PL/ 582r1jmmm3tgj   2t    0   4M INA SQL*Net    2t
Enter sql_id: 4mfv9xfuxbfhw

PLAN_TABLE_OUTPUT
--------------------------------------------------------------------------------
SQL_ID  4mfv9xfuxbfhw, child number 0
-------------------------------------
UPDATE ORDR SET O_CARRIER_ID = :B1 WHERE O_ID = :B4 AND O_D_ID =
:B3 AND O_W_ID = :B2 RETURNING O_C_ID INTO :O0

Plan hash value: 950365053

-----------------------------------------------------------
| Id  | Operation                                | Name  |
-----------------------------------------------------------
|   0 | UPDATE STATEMENT                         |       |
|   1 |  UPDATE                                  | ORDR  |
|   2 |   PARTITION REFERENCE SINGLE             |       |
|   3 |    TABLE ACCESS BY LOCAL INDEX ROWID BATCHED| ORDR  |
|   4 |     INDEX RANGE SCAN                     | IORDR |
-----------------------------------------------------------

press Enter to return
```

Miscellaneous

Exiting

To quit the program gracefully, user may press keyboard keys: "q" or "Q", or Esc key. A Ctrl+c to abort forcibly. In all cases, proper database logout is performed

Unprivileged user

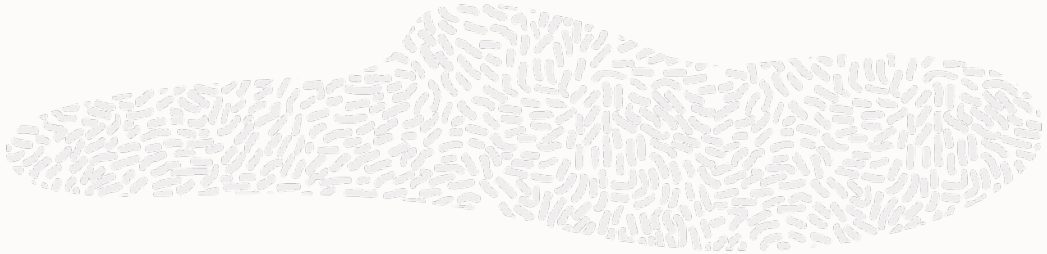
A typical error encountered by a non-privileged user upon connection to the database using the tool is “ORA-00942: table or view does not exist”

To allow the non-privileged user to use oratop, the system administrator with a DBA role may issue the following grant: “GRANT SELECT ANY DICTIONARY TO ;”

Standby or mounted database instance

- **STANDBY** - key press “t” for “TABLESPACE INFORMATION” will not return any rows. Reason: BUG 27841703
- **MOUNTED** Instance – Section 2 will show inst_id highlighted in red color. Reason: Required statistics is not available until instance is opened.

Monitoring a database every 10 seconds



Monitor a local database:

```
$ ./oratop -i 10 / as sysdba
```

Monitoring a remote database:

```
$ ./oratop -i 10 username/password@tns_alias
```

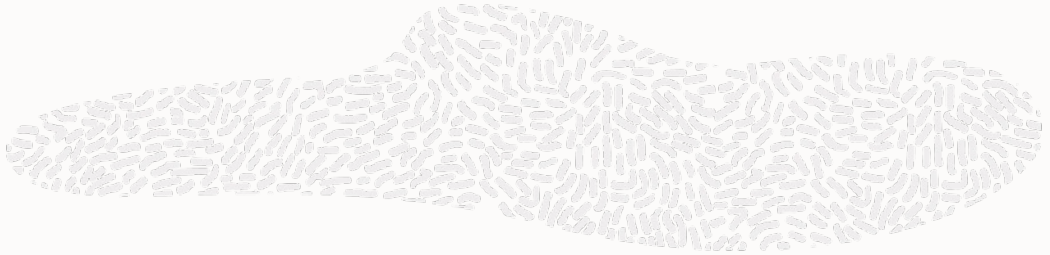
or

```
$ ./oratop -i 10 system/manager@tns_alias
```

Running from AHF

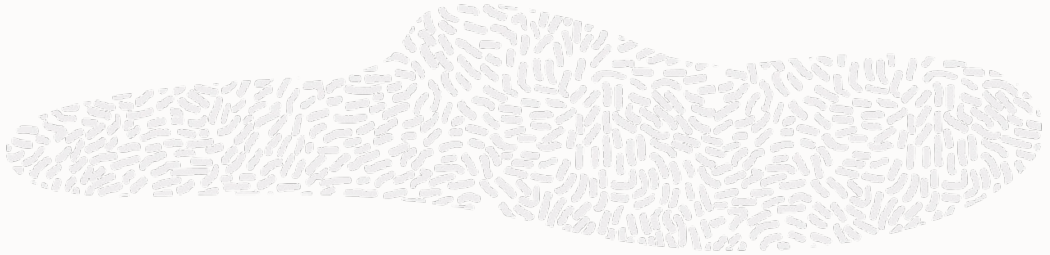


tfactl menu..



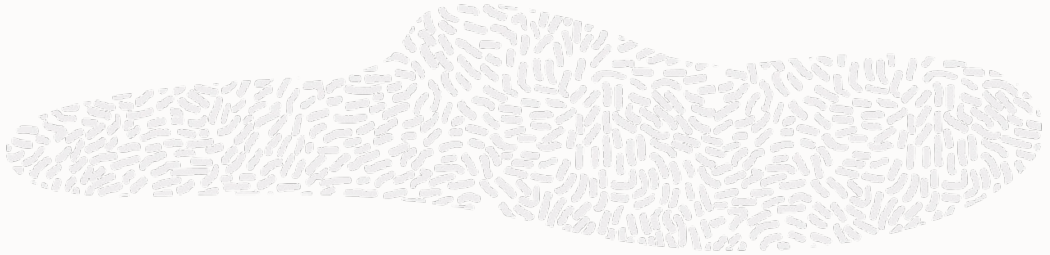
```
Trace File Analyzer Collector Menu System
=========================================

TFA Main Menu


      The Oracle Trace File Analyzer Menu provides a simple
      interface to the TFA tools.


      Select one of the following categories:

        1.  System Analysis
        2.  Collections
        3.  Administration



    (B)ack   (M)ain   (H)elp   E(x)it

    Please enter your selection : 1
```

tfactl menu..



```
Trace File Analyzer Collector Menu System
=========================================

System Analysis


      Select one of the following categories:

        1. Summary
        2. Events
        3. Analyze logs
        4. TFA Utilities
        5. Support Tool Bundle
        6. Tools status


    (B)ack   (M)ain   (H)elp   E(x)it

    Please enter your selection : 4
```

tfactl menu..



```
Trace File Analyzer Collector Menu System
=========================================

TFA Utilities


   Select One of the following options:

      1. ORAchk/ EXAchk
      2. Oratop
      3. alertsummary
      4. calog
      5. grep
      6. ls
      7. managelogs
      8. param
      9. ps
     10. pstack
     11. tail
     12. vi


    (B)ack   (M)ain   (H)elp   E(x)it

    Please enter your selection : 2
Please enter the database name: ahforcl

Running /opt/oracle.ahf/tfa/bin/tfactl oratop -database "ahforcl"
```

```
Oracle 21c - 04:50:53 Primary  r/w ahfo up: 153d,   0 sn,  2 ins,   2 pdb,   0 er,  35G sz, 6.9G sga, 13.4%fra, noarchive   0.7%db
ID CPU  %CPU LOAD  AAS  ASC  ASI  ASW  ISW  REDO TEMP IORT MBPS IOPS  R/S  W/S  LIO GCPS  %FRE  PGA  NETV UTPS UCPS SQRT %DBC %DBW
 1   5   8.6  0.6    0    0    0    0    0     4    0 231u    0  762  5.5  0.7  159  0.3  22.4 1.5G   690    0 15.6 352u  0.6  0.2
 2   5  14.6  0.6    0    0    0    0    0     6    0  77u  0.1 175k  5.1  0.9  155  0.5    31 1.6G  193k    0 15.6 281u  0.6    0

EVENT (C)                                                                T/O  WAIT  TIME   AVG  %DBT                    WAIT_CLASS
log file sync                                                                1.6M  6.1d  168m  21.7                        Commit
DB CPU                                                                             5.7d        20.3
write complete waits                                                          18k  2.3d   11s   8.1                 Configuration
db file sequential read                                                      9.8M  2.2d   10m   7.8                      User I/O
log file switch (checkpoint incomplete)                                      2.7k  1.8d   57s   6.3                 Configuration

ID   SID     SPID USERNAME PROGRAM   SRV SERVICE OPN SQLID/BLOCKER  E/T %CPU %LIO  PGA STS STE WAIT_CLASS EVENT/OBJECT NAME    W/T
```

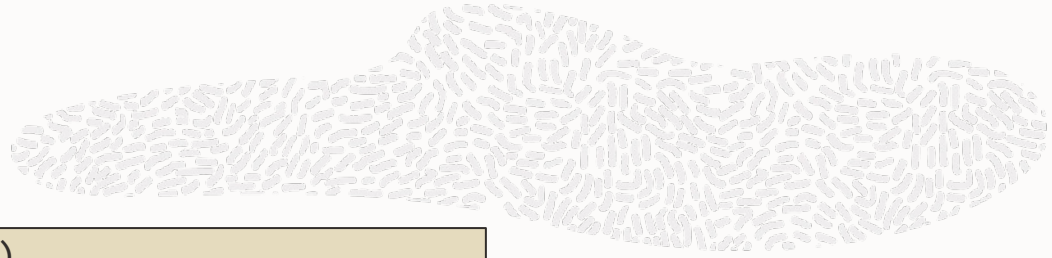
f : toggle between [standard] & detailed format

```
Oracle 21c - 04:50:56 Pri r/w ahfo up: 153d,   0 sn,   7G sga,  13%fra,    1%db
ID %CPU LOAD  AAS  ASC  ASI  ASW  ISW IORT MBPS  %FRE  PGA  UCPS SQRT %DBC %DBW
 1    9    1    0    0    0    0    0 231u    0    22   2G    18 352u    1    0
 2   15    1    0    0    0    0    0 115u    0    31   2G    17 265u    0    0

EVENT (C)                            T/O  WAIT  TIME   AVG  %DBT     WAIT_CLASS
log file sync                               2M    6d  168m    22         Commit
DB CPU                                            6d          20
write complete waits                       18k    2d   11s     8  Configuration
db file sequential read                    10M    2d   10m     8       User I/O
log file switch (checkpoint incomp          3k    2d   57s     6  Configuration

ID   SID     SPID USR PROG S OPN SQLID/BLOCKER  E/T %CPU  PGA ACT EVENT/OB  W/T
```

```
Oracle 21c - 04:52:57 Primary  r/w ahfo up: 153d,   0 sn,  2 ins,   2 pdb,   0 er,  35G sz, 6.9G sga, 13.4%fra, noarchive   0.8%db
ID CPU  %CPU LOAD  AAS  ASC  ASI  ASW  ISW  REDO TEMP IORT MBPS IOPS  R/S  W/S  LIO GCPS  %FRE  PGA  NETV UTPS UCPS SQRT %DBC %DBW
 1   5  12.3  0.4    0    0    0    0    0    48    0 206u    0  761  3.9    1  237  0.4  22.4 1.5G   387    0   23 339u  0.7  0.2
 2   5  14.7  0.8    0    0    0    0    0  1.2k    0 119u  0.1 175k  6.5  2.8  138  1.4    31 1.6G  193k    0 14.8 258u  0.7    0

EVENT (C)                                                          T/O  WAIT  TIME   AVG  %DBT                    WAIT_CLASS
log file sync                                                          1.6M  6.1d  168m  21.7                        Commit
DB CPU                                                                       5.7d        20.3
write complete waits                                                    18k  2.3d   11s   8.1                 Configuration
db file sequential read                                                9.8M  2.2d   10m   7.8                      User I/O
log file switch (checkpoint incomplete)                                2.7k  1.8d   57s   6.3                 Configuration

ID   SID     SPID USERNAME PROGRAM   SRV SERVICE OPN SQLID/BLOCKER  E/T %CPU %LIO  PGA STS STE WAIT_CLASS EVENT/OBJECT NAME    W/T
```

r : toggle between [Cumulative ©] & Real-Time (RT) (section 3)

```
Oracle 21c - 04:52:57 Primary  r/w ahfo up: 153d,   0 sn,  2 ins,   2 pdb,   0 er,  35G sz, 6.9G sga, 13.4%fra, noarchive   0.8%db
ID CPU  %CPU LOAD  AAS  ASC  ASI  ASW  ISW  REDO TEMP IORT MBPS IOPS  R/S  W/S  LIO GCPS  %FRE  PGA  NETV UTPS UCPS SQRT %DBC %DBW
 1   5  12.3  0.4    0    0    0    0    0    48    0 206u    0  761  3.9    1  153  0.4  22.4 1.5G   387    0 15.6 339u  0.7  0.2
 2   5  14.7  0.8    0    0    0    0    0  1.2k    0 119u  0.1 175k  6.5  2.8  210  1.4    31 1.6G  193k    0 21.8 258u  0.7    0

EVENT (RT)                                                   SESSIONS  WAIT  TIME   AVG  %DBT                    WAIT_CLASS
control file sequential read                                            621  480m  783u  21.5                    System I/O
PX Deq: Join ACK                                                        370  300m  828u  13.5                         Other
enq: PS - contention                                                    398  210m  529u   9.3                         Other
IMR slave acknowledgement msg                                           360  170m  486u   7.7                         Other
IPC send completion sync                                                898  120m  139u   5.5                         Other

ID   SID     SPID USERNAME PROGRAM   SRV SERVICE OPN SQLID/BLOCKER  E/T %CPU %LIO  PGA STS STE WAIT_CLASS EVENT/OBJECT NAME    W/T
```



```
m : Toggle session [USERNAME/PROGRAM] & MODULE/ACTION (sections 4)
```

```
Oracle 21c - 05:15:56 Primary  r/w ahfo up: 153d,   0 sn,  2 ins,   2 pdb,   0 er,  35G sz, 6.9G sga, 13.4%fra, noarchive   0.9%db
```

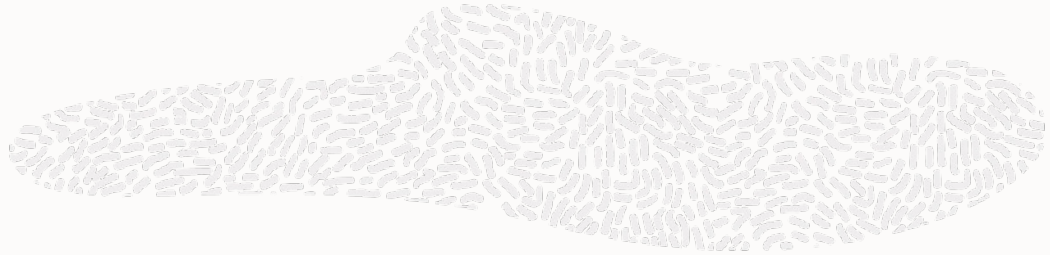
ID	CPU	%CPU	LOAD	AAS	ASC	ASI	ASW	ISW	REDO	TEMP	IORT	MBPS	IOPS	R/S	W/S	LIO	GCPS	%FRE	PGA	NETV	UTPS	UCPS	SQRT	%DBC	%DBW
1	5	23.2	2	0	1	0	0	0	1.3k	0	516u	0	775	4.0	2.1	1.8k	1.3	22.4	1.5G	532	0	44.9	335u	0.7	0.2
2	5	32.9	1.3	0	0	0	0	0	163	0	151u	0.1	175k	5.1	2.3	150	0.5	31.0	1.6G	193k	0	15.9	313u	0.7	0.1

EVENT (RT)	SESSIONS	WAIT	TIME	AVG	%DBT	WAIT_CLASS
control file sequential read		536	510m	959u	18.4	System I/O
PX Deq: Join ACK		348	360m	1.0m	13	Other
enq: PS - contention		377	220m	603u	8.2	Other
log file parallel write		94	220m	2.4m	8	System I/O
IMR slave acknowledgement msg		357	170m	476u	6.1	Other

ID	SID	SPID	MODULE	ACTION	SRV	SERVICE	OPN	SQLID/BLOCKER	E/T	%CPU	%LIO	PGA	STS	STE	WAIT_CLASS	EVENT/OBJECT NAME	W/T
1	530	32734	MMON_SLA	JAVAVM JI	DED	SYS$BAC			12s	0	0	7.4M	ACT	RUN	On CPU		3u

t : tablespace information (N/A on standby)

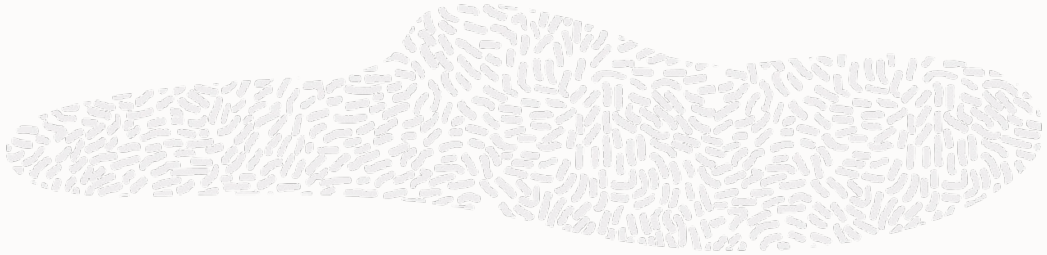
```
Oracle 21c - 05:11:56 Primary  r/w ahfo up: 153d,   0 sn,  2 ins,   2 pdb,   0 er,  35G sz, 6.9G sga, 13.4%fra, noarchive   0.9%db
ID CPU  %CPU LOAD  AAS  ASC  ASI  ASW  ISW  REDO TEMP IORT MBPS IOPS  R/S  W/S  LIO GCPS  %FRE  PGA  NETV UTPS UCPS SQRT %DBC %DBW
 1   5   7.6  1.3    0    0    0    0    0   915    0 427u    0  762  4.0  1.2  229  1.1  22.4 1.5G   436    0 16.6 345u  0.8  0.3
 2   5  13.9  0.7    0    0    0    0    0    92    0 123u  0.1 175k  5.5  1.3  152  0.5  31.0 1.6G  193k    0 16.9 294u  0.6  0.1

EVENT (RT)                                                    SESSIONS  WAIT  TIME   AVG  %DBT                    WAIT_CLASS
control file sequential read                                             574  520m  918u    21                    System I/O
PX Deq: Join ACK                                                         407  480m  1.2m  19.4                         Other
enq: PS - contention                                                     405  220m  553u   9.0                         Other
IPC send completion sync                                                 896  210m  235u   8.4                         Other
IMR slave acknowledgement msg                                            363  150m  422u   6.1                         Other

ID   SID     SPID MODULE   ACTION    SRV SERVICE OPN SQLID/BLOCKER  E/T %CPU %LIO  PGA STS STE WAIT_CLASS EVENT/OBJECT NAME    W/T


TABLESPACE INFORMATION:

TABLESPACE_NAME                SIZE  USED  USED%  STATUS     BIG  LOGGING    CONTENTS   EXTENT      SEGMENT  ALLOC_TYPE  ENCR  CID
------------------------------ ----  ----  -----  ---------  ---  ---------  ---------  ----------  -------  ----------  ----  ---
SOE                             24G   20G   85.9  ONLINE     YES  LOGGING    PERMANENT  LOCAL       AUTO     UNIFORM     NO      4
SYSAUX                         3.3G  2.5G   76.6  ONLINE     NO   LOGGING    PERMANENT  LOCAL       AUTO     SYSTEM      NO      1
SYSTEM                         1.9G  1.4G   73.5  ONLINE     NO   LOGGING    PERMANENT  LOCAL       MANUAL   SYSTEM      NO      1
SYSTEM                         522M  307M   58.9  ONLINE     NO   LOGGING    PERMANENT  LOCAL       MANUAL   SYSTEM      NO      4
SYSTEM                         522M  303M   58.1  ONLINE     NO   LOGGING    PERMANENT  LOCAL       MANUAL   SYSTEM      NO      3
SYSAUX                         1.1G  614M   52.4  ONLINE     NO   LOGGING    PERMANENT  LOCAL       AUTO     SYSTEM      NO      4
SYSAUX                         1.1G  605M   52.1  ONLINE     NO   LOGGING    PERMANENT  LOCAL       AUTO     SYSTEM      NO      3
USERS                          522M  2.7M    0.5  ONLINE     NO   LOGGING    PERMANENT  LOCAL       AUTO     SYSTEM      NO      1
USERS                          522M    1M    0.2  ONLINE     NO   LOGGING    PERMANENT  LOCAL       AUTO     SYSTEM      NO      3
USERS                          522M    1M    0.2  ONLINE     NO   LOGGING    PERMANENT  LOCAL       AUTO     SYSTEM      NO      4
TEMP                            32G     0      0  ONLINE     NO   NOLOGGING  TEMPORARY  LOCAL       MANUAL   UNIFORM     NO      1
TEMP                           2.4G     0      0  ONLINE     NO   NOLOGGING  TEMPORARY  LOCAL       MANUAL   UNIFORM     NO      4
TEMP                           522M     0      0  ONLINE     NO   NOLOGGING  TEMPORARY  LOCAL       MANUAL   UNIFORM     NO      3
UNDOTBS1                        32G   18M      0  ONLINE     NO   LOGGING    UNDO       LOCAL       MANUAL   SYSTEM      NO      1
UNDO_2                          32G   10M      0  ONLINE     NO   LOGGING    UNDO       LOCAL       MANUAL   SYSTEM      NO      4
UNDO_2                          32G  9.3M      0  ONLINE     NO   LOGGING    UNDO       LOCAL       MANUAL   SYSTEM      NO      3

press Enter to return
```



x : SQL plan table (requires a value)

```
Oracle 21c - 05:12:56 Primary  r/w ahfo up: 153d,   0 sn,  2 ins,   2 pdb,   0 er,  35G sz, 6.9G sga, 13.4%fra, noarchive   0.4%db
ID CPU  %CPU LOAD  AAS  ASC  ASI  ASW  ISW  REDO TEMP IORT MBPS IOPS  R/S  W/S  LIO GCPS  %FRE  PGA  NETV UTPS UCPS SQRT %DBC %DBW
 1   5     7  1.2    0    0    0    0    0    39    0 166u    0  761  3.9  0.9  106  0.4  22.4 1.5G   234    0 10.4 242u  0.4    0
 2   5  13.8  0.4    0    0    0    0    0   497    0 127u  0.2 178k    5  5.7  109  0.5  31.0 1.6G  196k    0 10.7 244u  0.4    0

EVENT (RT)                                                      SESSIONS  WAIT  TIME   AVG  %DBT                      WAIT_CLASS
control file sequential read                                             532  430m  810u  25.0                      System I/O
db file parallel write                                                   284  180m  657u  10.8                      System I/O
IMR slave acknowledgement msg                                            360  160m  468u   9.8                           Other
PX Deq: Join ACK                                                         164  120m  768u   7.3                           Other
PX Deq: reap credit                                                      13k  110m    9u   6.9                           Other

ID   SID     SPID MODULE   ACTION    SRV SERVICE OPN SQLID/BLOCKER  E/T %CPU %LIO  PGA STS STE WAIT_CLASS EVENT/OBJECT NAME    W/T
Enter sql_id:
```

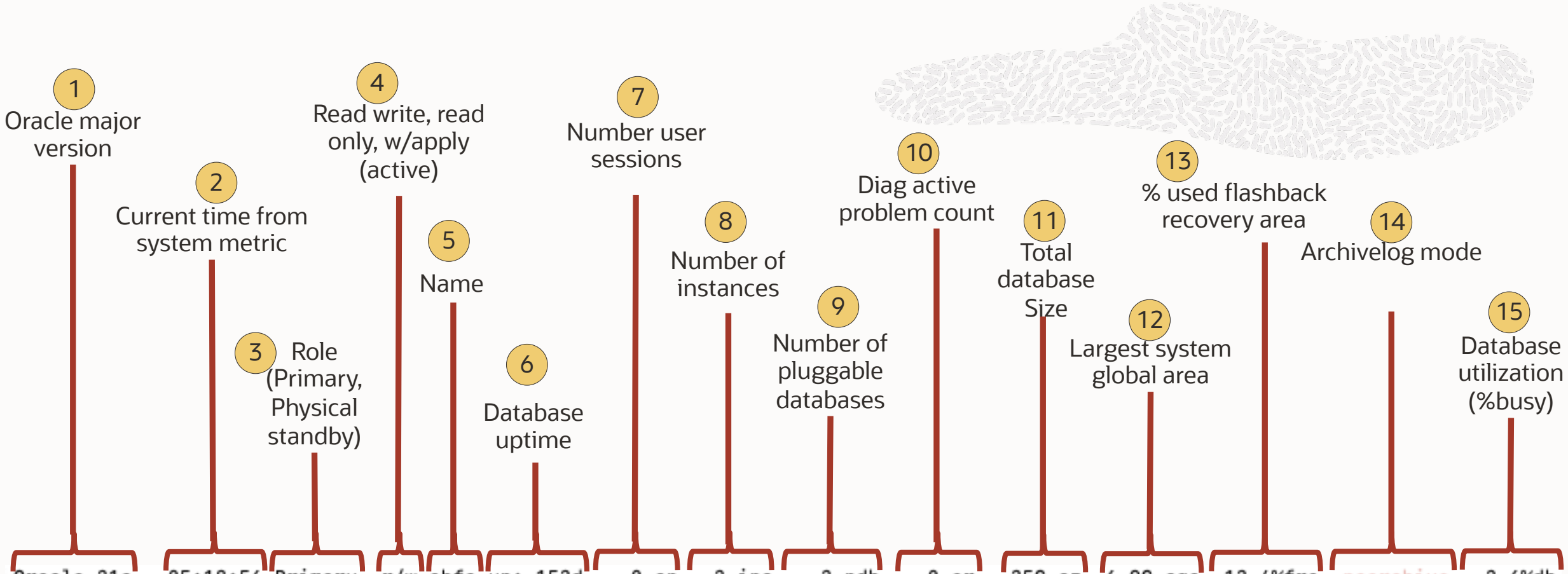
```
I : refresh interval, requires value in seconds [5]
```



```
Oracle 21c - 05:18:56 Primary  r/w ahfo up: 153d,   0 sn,  2 ins,   2 pdb,   0 er,  35G sz, 6.9G sga, 13.4%fra, noarchive   2.6%db
ID CPU  %CPU LOAD  AAS  ASC  ASI  ASW  ISW  REDO TEMP IORT MBPS IOPS  R/S  W/S  LIO GCPS  %FRE  PGA  NETV UTPS UCPS SQRT %DBC %DBW
 1   5  11.4  1.4  0.2    0    0    0    0  7.6k    0 288u  0.1  763    4  2.3  165  6.2  22.4 1.5G   418    0 16.6 1.0m  3.8  0.3
 2   5  14.9  0.7    0    0    0    0    0   168    0 176u  0.1 175k  5.1  1.4  203  0.6  31.0 1.6G  193k    0 21.1 394u  1.0  0.1

EVENT (RT)                                                  SESSIONS  WAIT  TIME   AVG  %DBT                      WAIT_CLASS
control file sequential read                                          553  490m  890u  19.4                      System I/O
PX Deq: Join ACK                                                      398  310m  800u  12.5                           Other
DB CPU                                                                     240m         9.5
enq: PS - contention                                                  424  230m  563u   9.4                           Other
IMR slave acknowledgement msg                                         360  160m  446u   6.3                           Other

USERNAME   SQL_TEXT                                  SQL_ID         DOP  (CI)   DUR  CPUT  IOWT  WAIT  EXEC  BUFG  DISK  BH%  LOAD
Enter interval in seconds [5]: 5
```

(h) Help menu

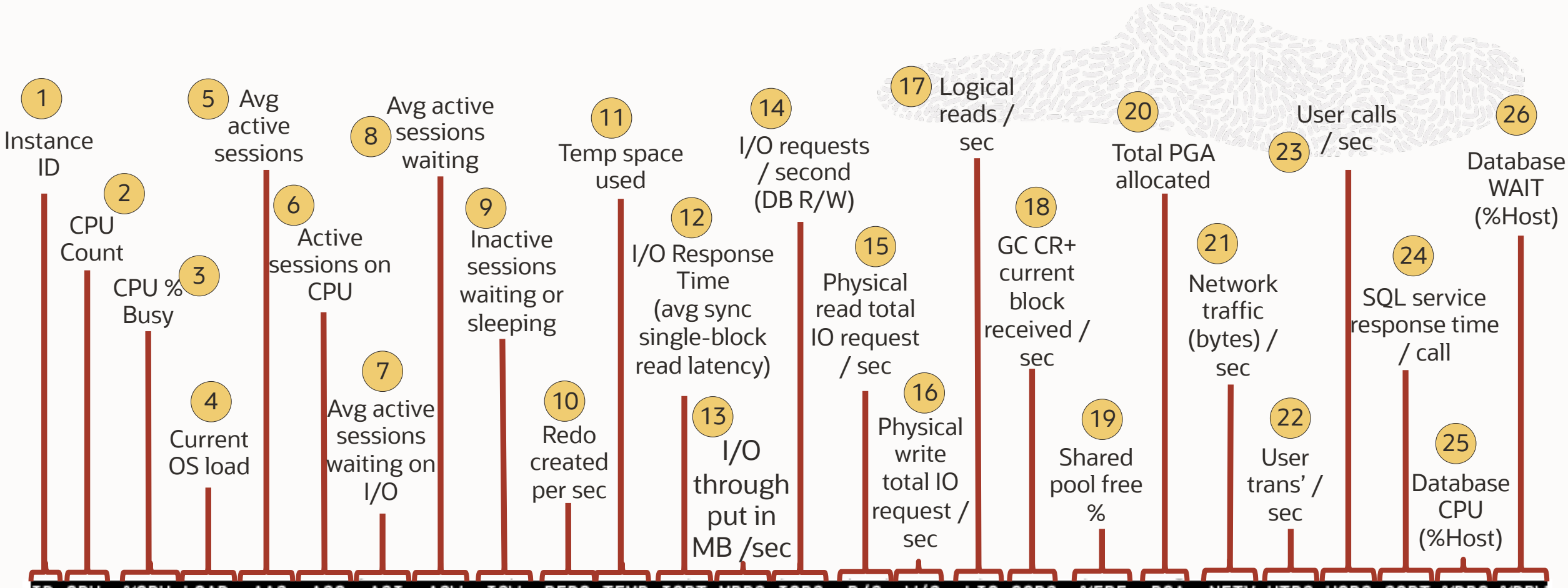
```
oratop: Release 16.5.1

Interactive Keys: [default]
          f : toggle between [standard] & detailed format
          r : toggle between [Cumulative (C)] & Real-Time (RT) (section 3)
          s : switch to SQL mode (section 4)
          p : switch to [session/process] mode (section 4)
          m : Toggle sessions [USERNAME/PROGRAM] & MODULE/ACTION (section 4)
          t : tablespace information (N/A on standby)
          a : ASM diskgroup information
          x : SQL plan table (requires a value)
          i : refresh interval, requires value in seconds [5]
          q : quit/ exit program
        Esc : pause.

Symbols:
        (B)yte, (k)illo, (M)ega, (G)iga, (T)erra, [PEZY]
        (u)micro, (m)illi, (s)econd, minu(t)e, (h)our, (d)ay, (y)ear
        [60s/ 15s] - metric interval size, else current.

Abbreviations Help Menu:
        Section 1 - DATABASE          .. [1]
        Section 2 - INSTANCE          .. [2]
        Section 3 - DB WAIT EVENTS    .. [3]
        Section 4 - SQL               .. [4]
        Quit Help                     .. (q|Q)

Enter selection number: 1
```




```
Oracle 21c - 05:18:56 Primary  r/w ahfo up: 153d,    0 sn,   2 ins,    2 pdb,    0 er,   35G sz, 6.9G sga, 13.4%fra, noarchive    2.6%db
```

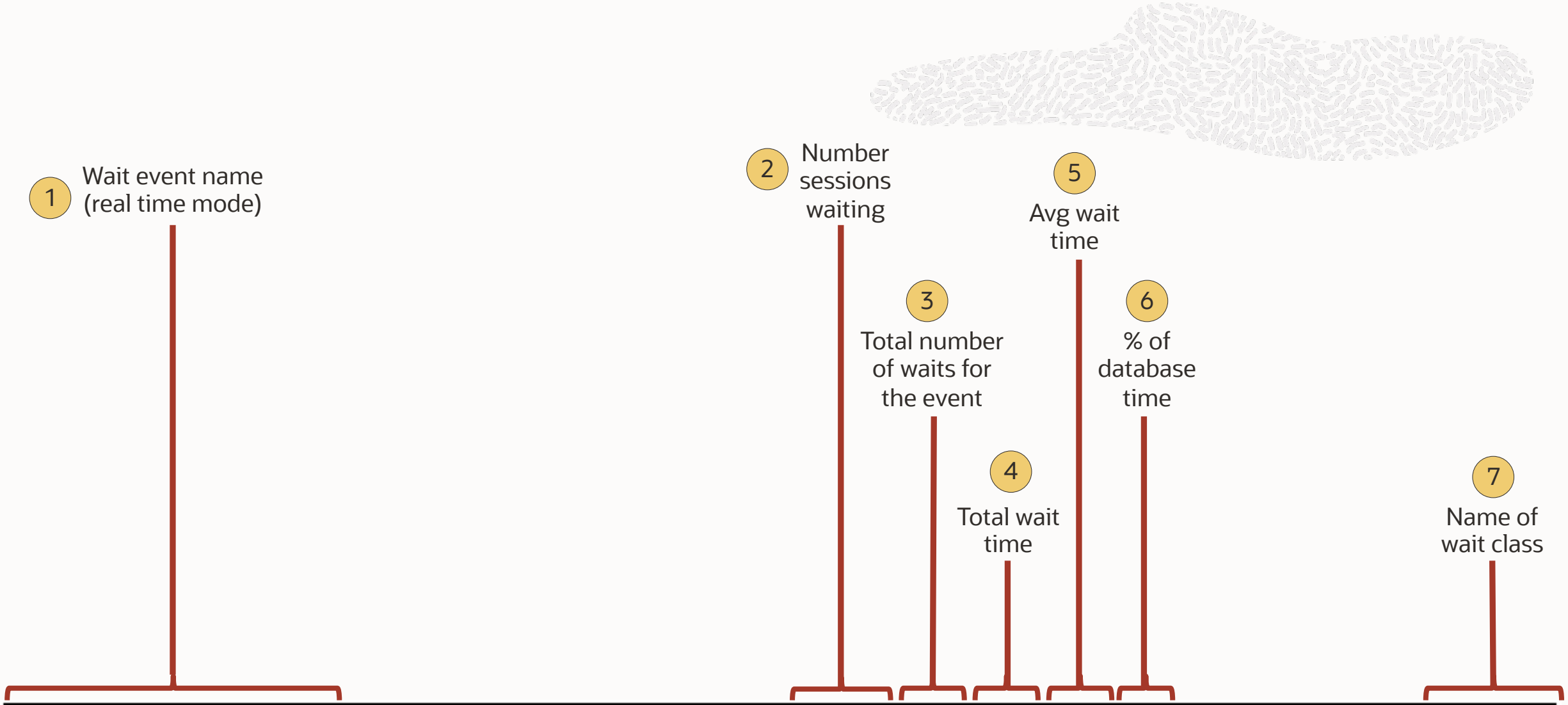
ID	CPU	%CPU	LOAD	AAS	ASC	ASI	ASW	ISW	REDO	TEMP	IORT	MBPS	IOPS	R/S	W/S	LIO	GCPS	%FRE	PGA	NETV	UTPS	UCPS	SQRT	%DBC	%DBW
1	5	11.4	1.4	0.2	0	0	0	0	7.6k	0	288u	0.1	763	4	2.3	165	6.2	22.4	1.5G	418	0	16.6	1.0m	3.8	0.3
2	5	14.9	0.7	0	0	0	0	0	168	0	176u	0.1	175k	5.1	1.4	203	0.6	31.0	1.6G	193k	0	21.1	394u	1.0	0.1

EVENT (RT)	SESSIONS	WAIT	TIME	AVG	%DBT	WAIT_CLASS
control file sequential read		553	490m	890u	19.4	System I/O
PX Deq: Join ACK		398	310m	800u	12.5	Other
DB CPU			240m		9.5	
enq: PS - contention		424	230m	563u	9.4	Other
IMR slave acknowledgement msg		360	160m	446u	6.3	Other



ID	CPU	%CPU	LOAD	AAS	ASC	ASI	ASW	ISW	REDO	TEMP	IORT	MBPS	IOPS	R/S	W/S	LIO	GCPS	%FRE	PGA	NETV	UTPS	UCPS	SQRT	%DBC	%DBW
1	5	11.4	1.4	0.2	0	0	0	0	7.6k	0	288u	0.1	763	4	2.3	165	6.2	22.4	1.5G	418	0	16.6	1.0m	3.8	0.3
2	5	14.9	0.7	0	0	0	0	0	168	0	176u	0.1	175k	5.1	1.4	203	0.6	31.0	1.6G	193k	0	21.1	394u	1.0	0.1

EVENT (RT)	SESSIONS	WAIT	TIME	AVG	%DBT	WAIT_CLASS
control file sequential read		553	490m	890u	19.4	System I/O
PX Deq: Join ACK		398	310m	800u	12.5	Other
DB CPU			240m		9.5	
enq: PS - contention		424	230m	563u	9.4	Other
IMR slave acknowledgement msg		360	160m	446u	6.3	Other



EVENT (RT)	SESSIONS	WAIT	TIME	AVG	%DBT	WAIT_CLASS
control file sequential read		553	490m	890u	19.4	System I/O
PX Deq: Join ACK		398	310m	800u	12.5	Other
DB CPU			240m		9.5	
enq: PS - contention		424	230m	563u	9.4	Other
IMR slave acknowledgement msg		360	160m	446u	6.3	Other

Thank you

Any Questions?

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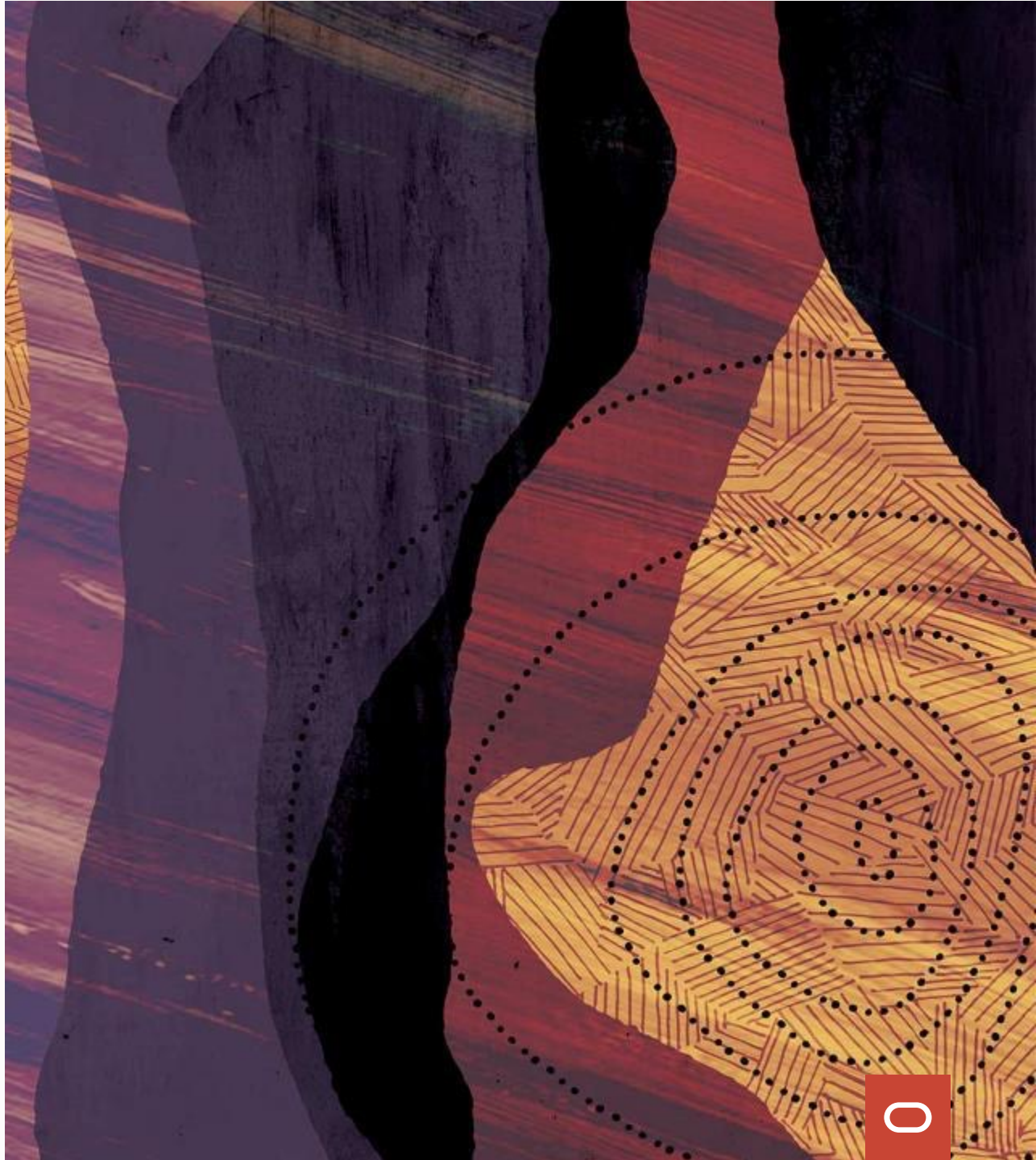
https://www.slideshare.net/SandeshRao4

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