

2023

KTuner Diagnostic & Optimization Tool For Oracle

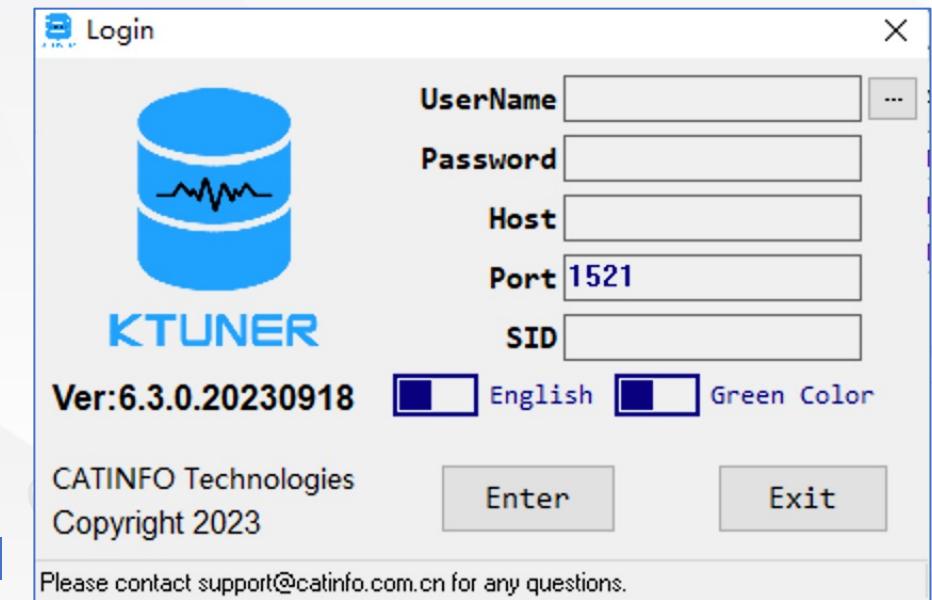
- Comprehensive analysis of the DB's state
- Uncovering the root causes of DB issues
- Efficiently managing Oracle system

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Catinfo Technologies Co., Ltd.



Key Features

- Focused on problem diagnosis and performance optimization
- Comprehensive historical tracing
- Automatic diagnosis and performance optimization
- No need for agent
- No need for client driver
- No need for ODBC driver
- Run directly without installation
- The Swiss Army Knife for DBA Experts
- An efficient assistant for APP O&M specialist's tool
- Widely used in core database management for industries such as banking, telecommunications, securities, healthcare, government, and higher education.



Main UI Function

KTuner 7.0.0.20240102 [bhis@172.101.0.51:1521/orcl[1] DB Ver: 11.2.0.4.0 OS Ver: Linux x86 64-bit]

Last (Hr.) 1 Time 10:26:51 Ses. 421 Exec/Sec 7976 UP 272d0hr CPUs 80 SGA 198G PGA% 194% FRA% 73%

INST_ID	CPU (%)	NET (KB/S)	PGAH (%)	PHYR (KB/S)	PHYR (TOPS)	PHYW (KB/S)	PHYW (TOPS)	LOGR (TPS)	TEMP (MB)	ACTP/NBR/S	BUFF-CH (%)	L1BCH (%)	ROWCH (%)	RESP SEC/T	DBTIME (T/S)	DB_CPU (%)	DB_WAIT (%)	COMMIT T	TRANS (TPS)	CALLS (TPS)	EXECS (KB/S)	REDO (NBR)	ACTSES (NBR)	TOTSES (NBR)	CPUSES (NBR)	LOSES (NBR)	OTHSES (NBR)	CPUS (NBR)
1	10.1	1715	97.1	376306	1489	441	75	709586	104	3	98.71	99.63	99.92	0	411	93.59	6.35	21	23	879	3990	256	9	210	8	0	1	40
2	7.28	1286	96.47	84258	1174	392	73	622411	78	4	99.75	99.78	100	0	268	97.02	4.01	18	13	666	3986	143	3	216	3	0	0	40

DB Level Metrics

Instance Level Metrics

CUMU. EVENT

	WAIT COUNT	TOTAL SEC	Avg. MS	PCT(%)	CATALOG
DB CPU	0	49,354,125	0	89	
db file sequential read	14,704,199,634	2,786,782	0	5	User I/O
enq: TX - row lock contention	215,643	1,309,875	8,361	2	Application
direct path read	2,321,958,192	1,192,548	1	2	User I/O
log file parallel write	2,819,836,497	729,403	0	1	System I/O

Real-time Wait Events

CURR. EVENT

	WAIT COUNT	TOTAL SEC	Avg. MS	PCT(%)	CATALOG
DB CPU	0	7,605	0	83	
SQL*Net message to client	10,509,594	1,599	0	17	Network

Cumulative Wait Events

MAIN FUNCTION AREA

ACTIVE PROC SQL PROFILER EVENT BAR METRIC EFFECT TOP SQL LOCK MGMT TABLESPACE DISK GROUP TEMP REDO PROFILER UNDO SQL TUNER ADG RMAN

PERF HIST AWR PARAMETER ALERT LOG ALERT DX RAC STATUS SQL AUDIT SCRUTINY TERMINAL TOOLSET

Filtering Method Contains Refresh Auto Refresh Inter. Sec 20

INST_ID	SID	PID	USER	PROGRAM	MODULE	ACTION	SQL_ID	QL_CHILD_NUMBE	STATUS	DURA.(SEC)	WAIT	EVENT	CATALOG_WAIT(SEC)	CONNECTION	A USAGE(MALLOCATED)	SA FREE(MEGA)	MAX(MB)	SERVICE		
2	693,51093	123632 F/G		oracle@kdb0					0 ACTIVE		2 WAITING	jobq slave	Idle		0 DEDICATED	0.84	0.96	0	2264.33 SYS\$USERS	
2	586,4621	103761 BHIS	w3wp.exe	w3wp.exe			5q25hp3a9d79p		2 ACTIVE		1 CPU	cpu runque	Idle		-1 DEDICATED	7.22	8.64	1	2264.33 orcl	
2	1603,18320	123483 F/G	oracle@kdb0						0 ACTIVE		1 WAITING	jobq slave	Idle		0 DEDICATED		2	3.27	1	2264.33 SYS\$USERS
1	233,60469	175085 BHIS	w3wp.exe	w3wp.exe			9m992b2xfjkff		2 ACTIVE		0 CPU	cpu runque	Cluster		-1 DEDICATED	8.55	10.27	0	2208.27 orcl	
2	4451,41017	103757 BHIS	w3wp.exe	w3wp.exe			5pedskbradggv		6 ACTIVE		0 CPU	cpu runque	Cluster		-1 DEDICATED	14.94	15.52	0	2264.33 orcl	
2	2060,18469	171748 BHIS	w3wp.exe	w3wp.exe			97265fwcwlz4s		0 ACTIVE		0 WAITING	gc cr	reque	Cluster		0 DEDICATED	29.85	30.33	0	2264.33 orcl
1	3311,23235	181974 BHIS	w3wp.exe	w3wp.exe			gn8cgpd8zunyb		2 ACTIVE		0 CPU	cpu runque	Network		-1 DEDICATED	6.73	8.39	1	2208.27 orcl	

Host CPU Utilization(%)

INST_ID 1
INST_ID 2

Chat Area for Metrics

DB Level Metrics



Retrieve Metrics for Last n Hours

Total Sessions

DB Uptime
D:days,Hr:Hours

Total SGA

FRA Usage

Language Controller

Certificate Clearance

KTuner 7.0.0.20240102 [bhis@172.101.0.51:1521/rcl[1] DB Ver: 11.2.0.4.0 OS Ver: Linux x86 64-bit]
Last (Hr.) 1 ▾ Time 10:12:12 Ses. 411 Exec/Sec 6757 UP 272d0hr CPUs 80 SGA 198G PGA% 194% FRA% 73% Event ON EN Bright Clear Auth. View Lice.

DB Server Time

Executions Per Second

Total CPU Cores

Total PGA Hit Ratio
=PGA Hit Ratio x Instance count

Event Panel Switch

Style Controller

License Management

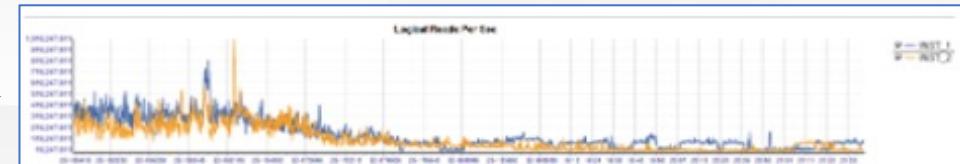
Language Controller

Certificate Clearance

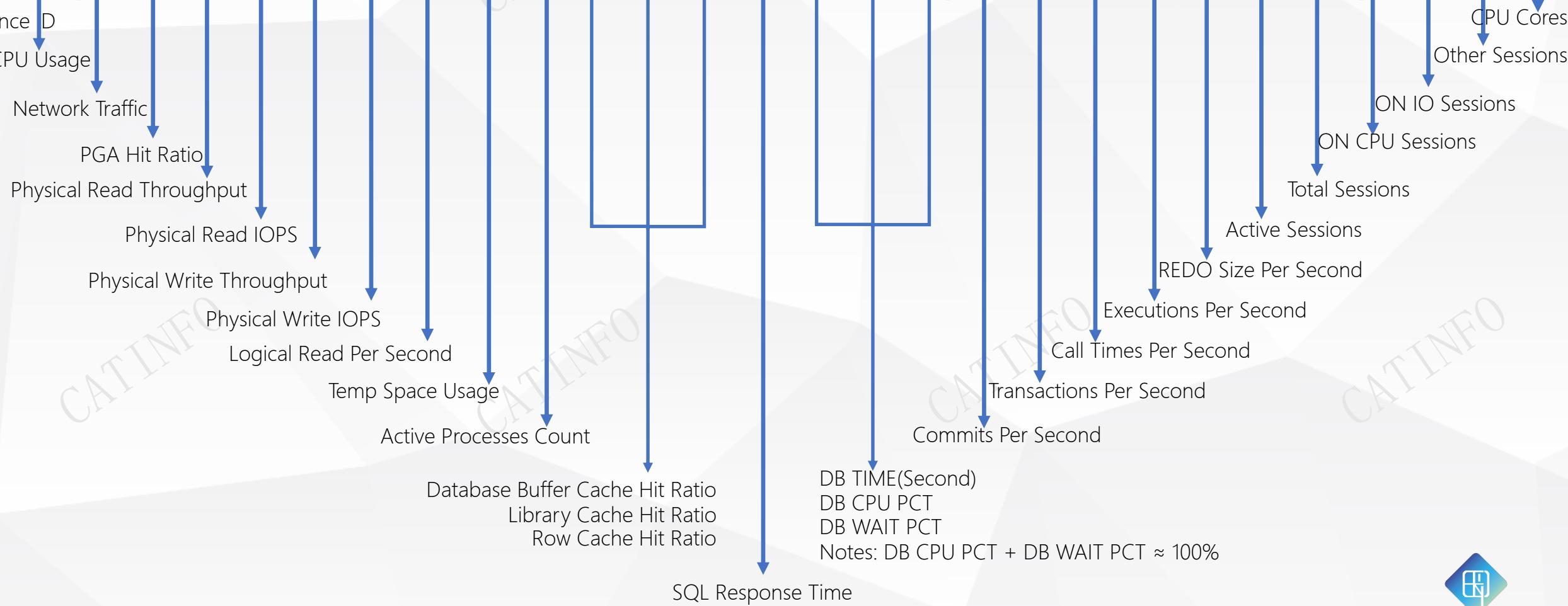
Instance Level Metrics



Double-Click Metric Title:
Display Metric Historical Value



INST_ID	CPU (%)	NETWORK (KBPS)	PGA_HIT (%)	PHY_READ (KBps)	PHY_READ (IOPS)	HY_WRT (KBps)	HY_WRT (IOPS)	ICAL_RATES (times/Sec)	TEMP (MB)	PE PROCESSES (Nbr.)	JFFER_H (%)	CACHE (%)	CACHE (%)	CALL sec/Time	DBTIME (Sec)	DB_CPU (%)	DB_WAIT (%)	COMMIT times/Sec	TRX times/Sec	CALL times/Sec	EXEC times/Sec	REDO (KB/Sec)	PE_SESSIONS (Nbr.)	LE_SESSIONS (Nbr.)	SESSION_C (Nbr.)	SESSION_J (Nbr.)	CPU (Nbr.)	
1	2.69	115	97.45	177	16	79	23	2436	39	1	99.99	100	99.99	0	109	99.65	0	2	1	67	138	1	2	119	1	0	1	40
2	0.25	121	96.76	44001	52	50	10	6173	39	0	99.8	99.9	100	0	5	94.14	7.05	2	5	99	311	3	2	126	1	0	1	40



DB Wait Event



TOP 5 Wait Events

EVENT_NAME	TOTAL_WAIT_NUM	TOTAL_TIME(SEC)	AVG_TIME(MS)	PCT	TYPE
DB CPU	0	35777548	0	89	
db file sequential read	9594824599	1832849	0	5	User I/O
enq: TX - row lock contention	191085	1204338	10183	3	Application
direct path read	1940677501	1050037	1	3	User I/O
log file parallel write	2091930034	555704	0	1	System I/O

EVENT_NAME	TOTAL_WAIT_NUM	TOTAL_TIME(SEC)	AVG_TIME(MS)	PCT	TYPE
DB CPU	0	2056.58	0	91	
db file sequential read	970094	209.51	0	9	User I/O
gc cr request	10	0	0	0	Cluster

Cumulative Wait Events Since Database Startup

Cumulative Wait Events:

Reflects the allocation of DB time since startup

Common time-consuming categories include:

I/O, locks, CPU, and others

Database Current Real-time Wait Events

Real-time Wait Events:

Reflect the allocation of time in the current database status

Function Panel



Cumulative TOP SQL Since Database Startup

Anomaly Metric Analysis

Top 5 Wait Events by Time Period

TOP SQL for the Specified Time Period

Active Sessions List

Lock Management

Tablespace Usage

ASM Disk Group Usage

Automatic SQL Optimization

Backup Status Check

AWR Report Generation

DB Parameters

Alert Log

Performance Historical Backtracking

Alert Automatic Diagnostic

Frequently Used Toolset



ACTIVE PROC

INST_ID	SID, S#	SCHEMA	MACHINE	PROGRAM
2	804,14407	BHIS	WORKGROUP	w3wp.exe
STATUS	LAST CALL ET(Sec)	EVENT	OBJECT	BRANCH
ACTIVE gc cr request BHIS.YS001_BRZJL				
SQL_ID	PLAN HASH VALUE	FIX PLAN		
select distinct a.name,trunc((to_char(sysdate,'yyyymmdd') - to_char(a.birthday,'yyyymmdd')) / 10000) 岁 as age, case when a.gbhbillid is null then a.inpnum else gbhbillid end as zyh ,a.generalreportstatus as GRStatus, (select dictname from tsdict where organid=a.organid and typeid='117' and dictid=a.sex) as sexname,a.deptid,f.deptname,t.pycode,t.wbcode from li010_jysqb a join li007_thzdhc on a.organid=c.organid and a.projectid=c.com_id				
ID	OPERATION	OWNER	NAME	ROWS COST STALE
0	SELECT STATEMENT	BHIS	TSDICT	1 453 NO
1	TABLE ACCESS BY INDEX ROWID	BHIS	PK_TSDICT	1 1 NO
2	INDEX UNIQUE SCAN			1 452
3	SORT UNIQUE			1 451
4	NESTED LOOPS OUTER			1 450
5	NESTED LOOPS OUTER			1 448
6	NESTED LOOPS ANTI			1 445
7	NESTED LOOPS			1 445
8	NESTED LOOPS			1 444
9	NESTED LOOPS			1 26 NO
10	NESTED LOOPS			
11	TINDEX RANGE RHTS PK T037 MTT 1			

Double-click, and Pup up Session Management window

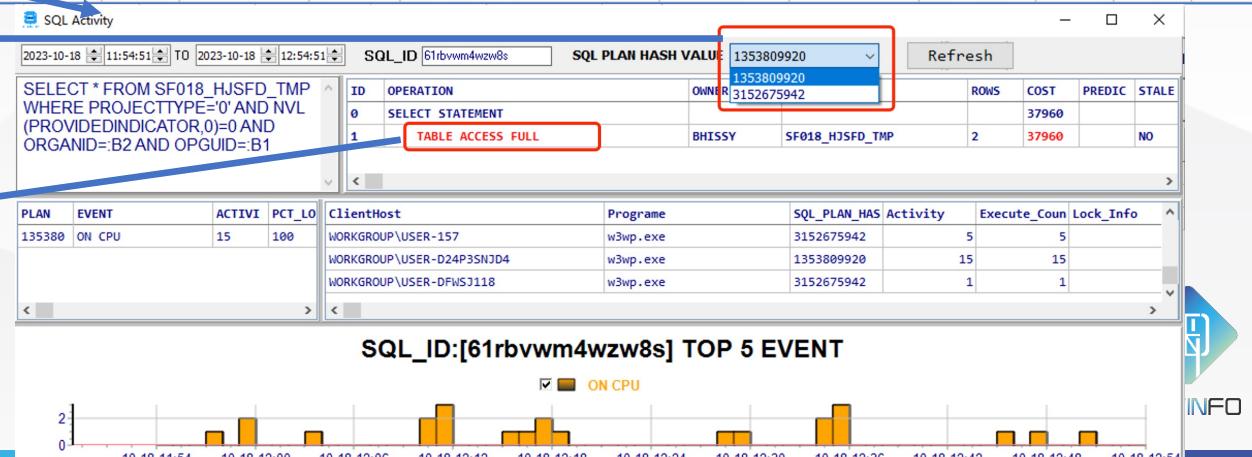
/ST_	SID	PID	USER	PROGRAM	MODULE	ACTION	SQL_ID	L_CHILD_NUMB	STATUS	DURATION SEC	WAIT	EVENT	TYPE	WAIT SEC	CONNECTION	USAGE	LLOCATE	\FREE
2	1375,24081	85507	RHIP	oracle@kdb02 (J007)	DBMS_SCHEDULER	ASPT_YL01	7j384dwukuvs	0	ACTIVE	14711655	WAITING	single-task message	Idle	0	DEDICATED	12.07	1088.71	107
1	1604,11883	102743	SYS	sqlplus@kdb01 (TNS)	sqlplus@kdb01 (TNS)		f5kskn9df2h2p	0	ACTIVE	41886	CPU	cpu runqueue	Cluster	-1	DEDICATED	10.28	15.91	
1	4112,12437	82677	F/G	oracle@kdb01 (J001)				0	ACTIVE	22	WAITING	jobq slave wait	Idle	0	DEDICATED	0.84	0.96	
1	2970,11989	82675	F/G	oracle@kdb01 (J000)				0	ACTIVE	22	WAITING	jobq slave wait	Idle	0	DEDICATED	1.26	1.71	
2	2630,50455	185604	F/G	oracle@kdb02 (J000)				0	ACTIVE	14	WAITING	jobq slave wait	Idle	0	DEDICATED	0.84	0.96	
1	578,11907	21474	BHIS	w3wp.exe	w3wp.exe		gn8cgpd8zunyb	5	ACTIVE	6	CPU	cpu runqueue	User I/O	-1	DEDICATED	5.37	6.94	
2	2625,32263	45018	BHIS	w3wp.exe	w3wp.exe		6b1p2q59am75j	3	ACTIVE	3	CPU	cpu runqueue	User I/O	-1	DEDICATED	8.98	9.46	



Active Proc :

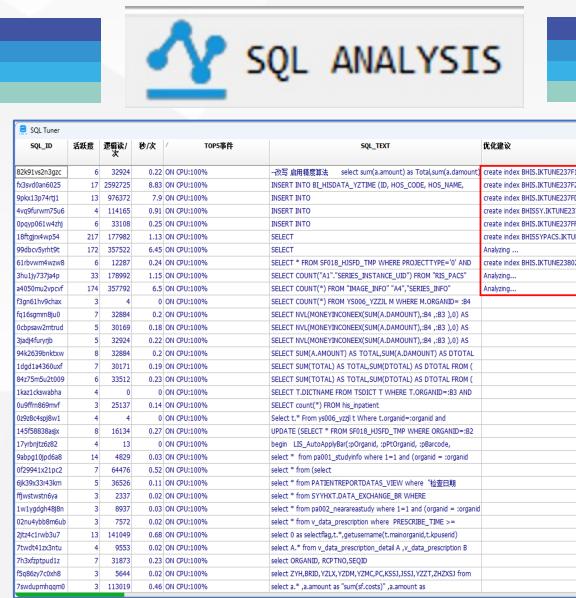
- ✓ Display currently active sessions, typically sessions running SQL queries.
- ✓ This provides a visual representation of how long each session has been running, what it is waiting for, which application it belongs to, and the terminal it is using, among other basic information.

Duration of Active Session



Multiple PLAN HASH values typically result in performance fluctuations

Problematic paths will be highlighted in red for your reference.



→ Script for SQL performance improvement

Automatic SQL Optimization



SQL Analysis

- ✓ Used to pinpoint the Top SQL within a specific time frame.
 - ✓ By analyzing SQL wait events, you can easily identify the root of SQL issues.

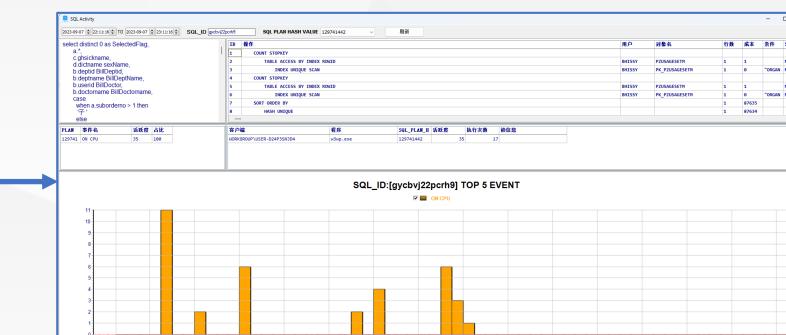
With a single click, it can generate SQL optimization scripts.

SQL_ID	活跃度	逻辑读/次	秒/次	TOP5事件	SQL文本
18fgejrx4wp54	186	177982	1.13	ON CPU:100%	SELECT "A1"."PACS_STUDY_ID","A1"."STUDY_INSTANCE_UID","A1"."SERIES_INSTANCE_UID","A1"."IMAGE_COUNT","A1"."SERIES_NUMBER","A1"."DISABLE_FLAG","A1"."PACS_SERIES_ID" FROM "RIS..."
a4050m2vpcvf	174	357792	6.5	ON CPU:100%	SELECT COUNT(*) FROM "IMAGE_INFO" "A4","SERIES_INFO" "A3","RIS_PACS" "A2","PACS_HOST_INFO" "A1" WHERE "A2"."RIS_STUDY_ID":=1 AND "A4"."HOST_ID":="A1"."HOST_ID"(+) AND "A3"."S...
99dbc5vrh9t9	172	357522	6.45	ON CPU:100%	SELECT "A2"."INSTANCE_NUMBER","A3"."PACS_SERIES_ID","A3"."STUDY_INSTANCE_UID","A3"."SERIES_INSTANCE_UID","A3"."SERIES_NUMBER","A4"."PACS_STUDY_ID","A3"."IMAGE_COUNT","A2"....
9m9z2bxjfkff	167	9507	0.09	ON CPU:100%	select a.* ,d.sickdocid,e.pycode,e.wbcode,e.bhcode, getage(a.ageyear,a.agemonth,a.ageday) Age ,d.ghenterdate,d.sickbarcode,d.isgreenpassage,nvl(my1.myzd,my1.mycbd) as zdxx ,...
86duqmzr2pcgn	60	6	0	ON CPU:100%	SELECT T.SITENAME FROM OUSER.TSDBCONNECT T WHERE T.ORGANID=:B1 AND RONNUM=1
145f58838asix	55	16134	0.27	ON CPU:100%	UPDATE (SELECT * FROM SF018_H3SPD_TM WHERE ORGANID=:B2 AND OPGUID=:B1) T SET CREATEDATE=SYSDATE
24Wz98ddqtyiw	48	15151361	91.97	ON CPU:93.75%,gc current block 2-way:2.08%,gc remaster:2.08%,gcs drm freeze in enter server mode:2.08%	SELECT RA.* FROM (SELECT PID, ORGCODE, ORGNAME, HOSPID, HOMEID, CHARGETYPECODE, CHARGETYPENAME, SUM(COSTS) AS AMOUNT, REGDATE, REGOPERID, REGOPERNAME, REGRGID, REGORGNAME, V...
705nsjh6ufua6	47	59007753	552.24	reliable message:70.21%,ON CPU:29.79%	call SP_RHPP_AUTO ()
2ddcsaj4k0tpf	46	114089	0.68	ON CPU:100%	SELECT SUM(TOTAL) AS TOTAL,SUM(DTOTAL) AS DTOTAL FROM (SELECT A.* ,CASE WHEN TOTAL IS NULL THEN A.AMOUNT ELSE B.TOTAL END AS TOTAL ,CASE WHEN TOTAL IS NULL THEN A.DAMOUNT ELSE B.DAM...
gycbvJ2Qcrh9	43	385669	2.13	ON CPU:100%	select distinct @ as SelectedFlag, a.* ,c.ghsickname ,d.dictname sexName ,b.deptid BillDeptId ,b.deptname BillDeptName ,b.userid BillUserid ,b.orgid BillOrgid ,b.orgname BillOrgName ,b...
429dv2zt7erd	42	2353529	49.5	db file scattered read:45.24%,ON CPU:40.48%,db file sequential read:14.29%	SELECT RA1.* FROM (SELECT NVL(T.PID,T.CARDID) AS PID ,C.ORGANID C.APPLYID A.PAT_ID AS TESTID ,C.ORGANID C.APPLYID RES_E_CODE AS TESTINDEXID ,A.PAT_CHK_DATE AS REL...

Highlighting Low-Efficiency Metric Values

SOL Level wait events

Double-click SQL_ID to perform a detailed analysis of the SQL





EVENT HISTOGRAM

Time Granularity
(10Minutes/1Hour)

TIME	INST_ID	ACTIVITY	TOP 1 EVENT	TOP 2 EVENT	TOP 3 EVENT	TOP 4 EVENT	TOP 5 EVENT
20231018 03: 20	1	706	97.88% ON CPU	0.42% log file parallel write	0.42% null event	0.42% control file sequential read	0.28% reliable message
20231018 03: 20	2	175	88.57% ON CPU	4.57% log file parallel write	4.00% log file sync	1.14% null event	0.57% IPC send completion sys
20231018 03: 10	1	707	97.17% ON CPU	1.41% log file parallel write	0.57% null event	0.14% log file sequential read	0.14% gc current request
20231018 03: 10	2	359	52.37% SQL*Net message from dblink	35.65% ON CPU	2.23% log file parallel write	1.39% db file sequential read	1.39% DFS lock handle
20231018 03: 00	1	798	94.99% ON CPU	1.25% direct path read	0.88% db file scattered read	0.63% db file sequential read	0.50% log file parallel writ
20231018 03: 00	2	1069	42.47% ON CPU	3.86% SQL*Net message from dblin	7.20% log file parallel write	3.18% log file sync	2.90% DFS lock handle
20231018 02: 50	1	676	99.26% ON CPU	0.30% null event	0.30% log file parallel write	0.15% log file sync	0.00%
20231018 02: 50	2	114	83.33% ON CPU	8.77% log file parallel write	2.63% log file sync	2.63% null event	0.88% gc current request
20231018 02: 40	1	677	98.67% ON CPU	0.89% log file parallel write	0.30% null event	0.15% db file sequential read	0.00%
20231018 02: 40	2	126	84.92% ON CPU	7.94% log file parallel write	3.97% null event	1.59% gc current request	1.59% log file sync
20231018 02: 30	1	682	98.09% ON CPU	0.73% log file parallel write	0.44% null event	0.15% log file sync	.15% control file sequential
20231018 02: 30	2	275	93.45% ON CPU	1.82% null event	1.82% log file parallel write	1.09% db file sequential read	0.73% gc current request
20231018 02: 20	1	682	99.12% ON CPU	0.44% null event	0.29% control file sequential rea	0.15% enq: PS - contention	0.00%
20231018 02: 20	2	115	85.22% ON CPU	6.09% log file parallel write	5.22% log file sync	1.74% null event	0.87% gc current request
20231018 02: 10	1	700	97.86% ON CPU	0.57% log file sync	0.57% null event	0.43% log file parallel write	0.29% control file sequential



Event Histogram:

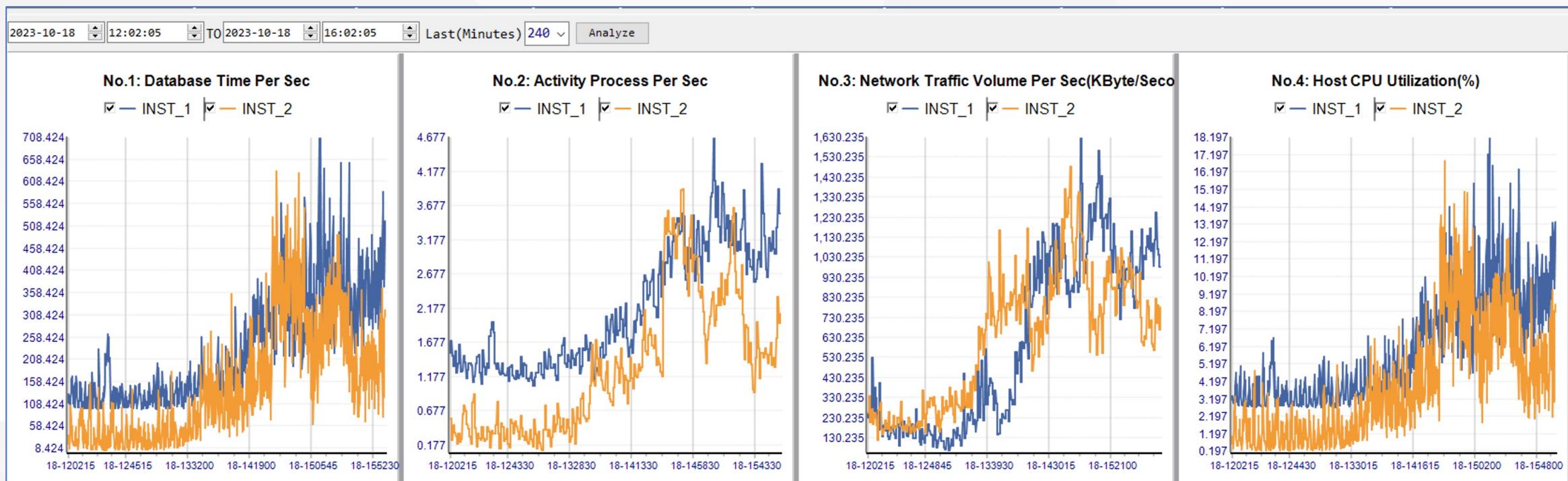
Provides a macro-level view of the database's abnormal conditions during different time periods and the distribution of events over time.





Metric Influences:

By using an algorithm, this feature identifies the top 4 abnormal metrics within a specified time frame, providing a high-level entry point for analyzing database anomalies.





TOP N By :

- Execution Count
 - Buffer Gets per Execution
 - Physical Reads per Execution
 - Duration per Execution
 - CPU Time per Execution
 - I/O Wait Time per Execution
 - Wait Time per Execution
 - Rows Processed per Execution
 - Parallel Executions per Execution

Automatically Optimize SQL

SQL_Types	SQL_ID	用户名	PROCESS	SQL_TEXT	执行次数	每次返回行数	每次物理读数	每次对表扫描数	每次物理写数	每次日志写数	每次会话数	优化建议	
46730744693	BH5	scott	SELECT * FROM HR.EMPLOYEES	1	2	1277292	148	17-21	17655000	32049	1223	173	0.00 N/A
1701644032	BK4	scott	SELECT * FROM HR.DD_CALENDAR	1	246	1000	13	9-66	140000	14000	213	213	0.00 N/A
102495373	BH5\$Y	scott	select /*+ V_NL_V_RD */ where org_id=region_id	40	244831	1295	5.33	494063	269364	59831	1	0.00 Analyzing...	
4674474193	BH5	scott	SELECT * FROM HR.DD_CALENDAR	1	187599	80234	7.0	5776000	283036	24299	15	0.00 Analyzing...	
1701644032	BH5	scott	SELECT * FROM HR.EMPLOYEES	31	1861247	869949	13.8	7226000	6197076	497243	31	0.00 Analyzing...	
1701644032	BH5	scott	SELECT * FROM HR.EMPLOYEES	1	1861247	869949	1.54	7226000	4483200	3000	213	0.00 Analyzing...	
1701644032	BH5	scott	select /*+ 4MNLZD_3ROW_ZON01 */ t from	1	1245722	0	1.00	1849000	0	108	2	0.00	
1701644032	BH5	scott	select case when med_startdate = 2000 + 0 then	1	1245861	0	1.00	1727000	0	0	1	0.00	
1701644032	BH5	scott	else if med_startdate = 2000 + 1 then	1	205000	0	1.00	1727000	3688700	10700	250	0.00	
1701644032	BH5	scott	else if ...	1	907149	325	1.41	1326000	81743	61996	3934	0.00	
102495373	BH5	scott	SELECT /*+ FIRST */ SELECT	1	686470	869347	19.25	9200000	18442735	88917	10	0.00	
102495373	BH5	scott	select /*+ 4MNLZD */ med_startdate from	1	671990	716418	3.42	1920000	154042	1754	1	0.00	
1701644032	BH5	scott	select /*+ 4MNLZD */ med_startdate from	1	671990	716418	2.00	1920000	1232000	88000	20	0.00	
1701644032	BH5	scott	select /*+ 4MNLZD */ med_startdate from	1	586154	0	1.00	1900000	0	875	558	0.00	
1701644032	BH5	scott	select case when med_startdate = 2000 + 0 then	1	586130	2	0.00	970000	350	260	1	0.00	
1701644032	BH5	scott	else if med_startdate = 2000 + 1 then	1	586130	24	0.00	970000	9900	1254	1	0.00	
1701644032	BH5	scott	else if ...	1	586130	0	1.00	1500000	0	134400	2800	0.00	
1701644032	BH5	scott	select case when med_startdate = 2000 + 0 then	1	587405	0	0.81	890000	0	192	1	0.00	
102495373	BH5	scott	select /*+ 4MNLZD_3ROW_ZON01 */ t from	1	587388	0	0.04	930000	0	118	1	0.00	
1701644032	BH5	scott	select /*+ 4MNLZD_3ROW_ZON01 */ t from	1	587388	0	0.02	930000	0	102	1	0.00	
102495373	BH5	scott	select /*+ 4MNLZD_3ROW_ZON01 */ t from	1	587372	0	0.00	990000	0	73	2	0.00	

TOP SQL :

Filter out various types of TOP poorly performing SQL since the database was started, e.g.

BUFFER_GETS_PER_EXE: The number of times memory reads are required for each execution, typically indicative of a lack of indexing.





LOCK

Auto unlock the lock

Auto Kill Blocker		OFF	Duration(Sec)>=	60	Program	Machine	Module	KILL LOG	Trace Lock	OFF	Lock History		
INST_ID	SID	BLOCKER INST_ID	BLOCKER SID	STATUS	STATE	/	SQL_ID	SQL_TEXT	PROGRAM	EVENT	WAIT DURATION(SEC)	ROW_WAIT_OBJ#	P
1	273,17623			INACTIVE	WAITING				python3@ktuner (TNS V1-V3)	SQL*Net message from client	115	-1	
1	151,47153	1	273	ACTIVE	WAITING	0	86a4k9g9ukuh5	update tmp_1 set vc='su' where id=2	sqlplus@kcloud (TNS V1-V3)	enq: TX - row lock contention	81	1111949	AAEPeNA

Double-click to view detailed info about the lock, and manually release the lock

TIP!

The screenshot shows the Oracle SQL Plan window. It displays session details such as INST_ID, SID, STATUS, LAST CALL ET(Sec), EVENT, and OBJECT. Below this, the SQL plan and execution details are shown, including the SQL statement and its execution plan.

ID	OPERATION	OWNER	NAME	ROWS	COST	STALE
0	SELECT STATEMENT				2	
1	FAST DUAL			1	2	

Track and record the history of lock occurrences.

LOCK :

Display only the connection sessions with lock conflicts.

By clicking on the Blocker SID, you can analyze the basic information of the session causing the lock and perform unlocking.



CATINFO



TABLESPACE



ASM



Tablespace :

Typically, attention is only required when the maximum extent usage is high. However, there are exceptions, such as 'bigfile' type tablespaces, which may not provide an effective space of up to 32TB

Tablespace Usage

TABLESPACE	USED SIZE(MB)	TOTAL SIZE(MB)	CURRENT USAGE(%)	MAXIMUM EXTENDED USAGE(%)	STATUS	CONTENT	NT MANAGE	ENT MANAGE	IG FIL	LOG	RESERVED	K SIZE	ILE NU	MAX SIZE(GE)
SYSTEM	95,674.69	95,790.00	100%	97%	ONLINE	PERMANENT	LOCAL	MANUAL	NO	LOGGING	NOT APPLY	8192	3	96
RHIPMID_TS	171,635.50	176,080.00	97%	1%	ONLINE	PERMANENT	LOCAL	AUTO	YES	LOGGING	NOT APPLY	8192	1	32768
RHIP_TS	879,709.88	902,600.00	97%	3%	ONLINE	PERMANENT	LOCAL	AUTO	YES	LOGGING	NOT APPLY	8192	1	32768
BHISTABS	1,127,286.06	1,157,120.00	97%	54%	ONLINE	PERMANENT	LOCAL	AUTO	YES	LOGGING	NOT APPLY	8192	1	2048
PACSTABS	34,914.44	36,480.00	96%	7%	ONLINE	PERMANENT	LOCAL	AUTO	YES	LOGGING	NOT APPLY	8192	1	500
OGG_TBS	25,638.13	27,120.00	95%	78%	ONLINE	PERMANENT	LOCAL	AUTO	NO	LOGGING	NOT APPLY	8192	1	32
RHIPYYMID_TS	25,950.50	28,004.00	93%	41%	ONLINE	PERMANENT	LOCAL	AUTO	NO	LOGGING	NOT APPLY	8192	2	62
SYSAUX	51,372.25	63,480.00	81%	81%	ONLINE	PERMANENT	LOCAL	AUTO	NO	LOGGING	NOT APPLY	8192	2	32
USERS	1,621.94	2,222.50	73%	5%	ONLINE	PERMANENT	LOCAL	AUTO	NO	LOGGING	NOT APPLY	8192	1	32
RHIPZYYMID_TS	1,983.94	3,250.00	61%	10%	ONLINE	PERMANENT	LOCAL	AUTO	NO	LOGGING	NOT APPLY	8192	1	20
GGWS	3,836.94	20,480.00	19%	19%	ONLINE	PERMANENT	LOCAL	AUTO	YES	LOGGING	NOT APPLY	8192	1	0
UNDOTBS2	218.06	53,407.98	0%	0%	ONLINE	UNDO	LOCAL	MANUAL	NO	LOGGING	NOGUARANTEE	8192	2	64
UNDOTBS1	215.31	55,207.98	0%	0%	ONLINE	UNDO	LOCAL	MANUAL	NO	LOGGING	NOGUARANTEE	8192	2	64
HEALTH DATA	11.50	5,120.00	0%	0%	ONLINE	PERMANENT	LOCAL	AUTO	YES	LOGGING	NOT APPLY	8192	1	0



ASM DiskGroup :

When the number of offline disks is not zero, it indicates a situation where disk failures are present in the storage system.

INST_ID	GROUP NAME	TOTAL SIZE(MB)	FREE SIZE(MB)	USAGE(%)	STATUS	TYPE	OFFLINE DISKS NUM	AU SIZE	COMPATIBLE VERSION	DB COMPATIBLE VERSION
1	DATA	9157068	2636764	71.21	CONNECTED	NORMAL	0	4194304	11.2.0.0	11.2.0.0
2	DATA	9157068	2636764	71.21	CONNECTED	NORMAL	0	4194304	11.2.0.0	11.2.0.0
1	NEWFRA	24025284	9364940	61.02	CONNECTED	NORMAL	0	4194304	11.2.0.0	11.2.0.0
2	NEWFRA	24025284	9364940	61.02	CONNECTED	NORMAL	0	4194304	11.2.0.0	11.2.0.0
1	OCR	184320	182934	0.75	MOUNTED	HIGH	0	1048576	11.2.0.0	11.2.0.0
2	OCR	184320	182934	0.75	MOUNTED	HIGH	0	1048576	11.2.0.0	11.2.0.0



CATINFO



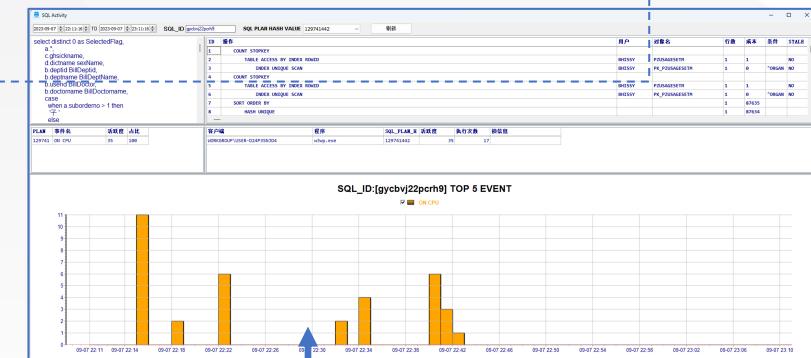
TEMP Analysis :

For SQL statements with significant TEMP space consumption, it indicates that sorting and other operations require additional disk space. These SQL statements often have suboptimal performance, which may be due to a small PGA setting or the use of execution plans involving operations like Cartesian joins.

If the consumption is too high in MB, check the execution plan.

INST_ID	SID	PID	USAGE(MB)	DB_USER	OS_USER	MODULE	PROGRAM	TABLESPACE	SQL_CHILD_NUMBER	SQL_ID
1	238	49945	4 BHISSY	BHISSY	Administrator	PL/SQL Developer	oracle@kdb01	TEMP	0	9m7787camwh4m
1	3200	67133	4 BHISSY	BHISSY	Administrator	PL/SQL Developer	oracle@kdb01	TEMP	0	9m7787camwh4m
2	3991	176155	4 RHIP	RHIP	Administrator	PL/SQL Developer	oracle@kdb02	TEMP	0	gayzwmp6m21c0
1	3423	93020	2 BHIS	BHIS	Administrator	PL/SQL Developer	oracle@kdb01	TEMP	2	3nz260v5dwqnv
1	1377	61858	2 BHISSY	BHISSY	Administrator	PL/SQL Developer	oracle@kdb01	TEMP	0	29bdpm894vydq
2	3992	152662	2 RHIP	RHIP	Administrator	PL/SQL Developer	oracle@kdb02	TEMP	1	3nz260v5dwqnv
1	1144	46042	2 BHISSY	BHISSY	Administrator	PL/SQL Developer	oracle@kdb01	TEMP	0	9m7787camwh4m
1	2629	9409	2 BHIS	BHIS	Administrator	PL/SQL Developer	oracle@kdb01	TEMP	0	9m7787camwh4m
1	1029	128320	2 BHISSY	BHISSY	Administrator	PL/SQL Developer	oracle@kdb01	TEMP	0	9m7787camwh4m
2	4448	46237	2 BHISSY	BHISSY	Administrator	PL/SQL Developer	oracle@kdb02	TEMP	0	9m7787camwh4m

Double-click to Popup





REDO

Excessive REDO switches

REDO Switch History(By Hour)		DATE	INST_ID	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
2023-10-18		1	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0							
2023-10-18		2	3	3	12	3	3	3	3	3	3	3	3	3	3	3	3	3	1								
2023-10-17		1	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	
2023-10-17		2	3	3	12	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	5	3	3	3	
2023-10-16		1	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	1	
2023-10-16		2	3	3	12	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	5	3	3	3	
2023-10-15		1	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Online REDO Files		NST_ID	GROUP	SIZE(MB)	RCHIVE	STATUS	FIRST_TIME	NEXT_TIME	TYPE	MEMBER
2		10	4096	NO	CURRENT		2023-10-18 16:20:01	ONLINE +DATA/orcl/onlinelog/group_10.272.997728307		
1		5	4096	NO	CURRENT		2023-10-18 16:19:06	ONLINE +DATA/orcl/onlinelog/group_5.265.997728241		
2		7	4096	YES	INACTIVE		2023-10-18 16:00:01	2023-10-18 16:20:01	ONLINE +DATA/orcl/onlinelog/group_7.269.997728303	
2		9	4096	YES	INACTIVE		2023-10-18 15:40:01	2023-10-18 16:00:01	ONLINE +DATA/orcl/onlinelog/group_9.271.997728305	
2		14	4096	YES	INACTIVE		2023-10-18 15:20:01	2023-10-18 15:40:01	ONLINE +DATA/orcl/onlinelog/group_14.296.1034809807	
1		4	4096	YES	INACTIVE		2023-10-18 15:19:06	2023-10-18 16:19:06	ONLINE +DATA/orcl/onlinelog/group_4.264.997728239	
2		8	4096	YES	INACTIVE		2023-10-18 15:00:01	2023-10-18 15:20:01	ONLINE +DATA/orcl/onlinelog/group_8.270.997728303	
2		12	4096	YES	INACTIVE		2023-10-18 14:40:01	2023-10-18 15:00:01	ONLINE +DATA/orcl/onlinelog/group_12.274.997728311	
2		11	4096	YES	INACTIVE		2023-10-18 14:20:02	2023-10-18 14:40:01	ONLINE +DATA/orcl/onlinelog/group_11.273.997728309	
1		3	4096	YES	INACTIVE		2023-10-18 14:19:06	2023-10-18 15:19:06	ONLINE +DATA/orcl/onlinelog/group_3.263.997728237	
1		2	4096	YES	INACTIVE		2023-10-18 13:19:06	2023-10-18 14:19:06	ONLINE +DATA/orcl/onlinelog/group_2.262.997728237	

Online REDO Status



REDO Analysis :

During REDO switches, a checkpoint operation is required, which consumes a significant amount of I/O resources. Therefore, REDO switches should not occur too frequently. However, if the REDO switch frequency is too low and archive logs are not generated for a long time, it may impact data recovery. Therefore, it is advisable to control the REDO switch frequency within the range of 1-6 times per hour.



When the REDO file status is mostly 'ACTIVE', it indicates that the REDO files may be too small or there are too few of them. This can lead to blocking all DML SQL statements.



CATINFO



UNDO

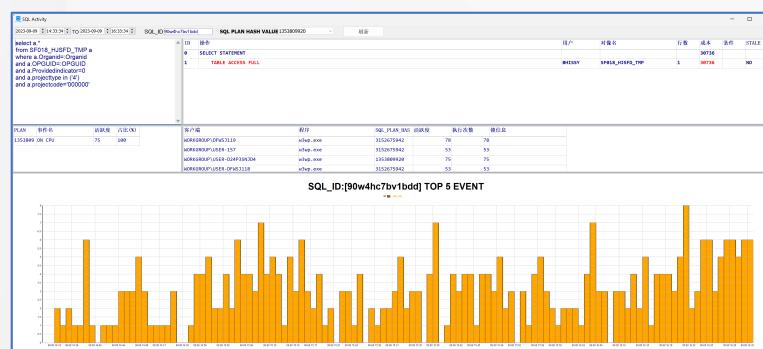
UNDO Tablespace Usage

TABLESPACE	SIZE(MB)	XPIRED(MB)	EXPIRED(MB)	ACTIVE(MB)
UNDOTBS2	53407.98	366.81	4186.98	9.06
UNDOTBS1	55207.98	973.69	200.04	0.00

Sessions with the TOP n UNDO usage

V\$ST_ID	SID	BEGIN_TIME	USER	PROGRAM	MACHINE	STATUS	USAGE(MB)	ML_ROW_NBR	CHILD_NBR	SQL_ID	SQL_TEXT
2	3769	3 15:35:51	BHIS	plsqldev.t	WORKGROUP	ACTIVE	0.01	1	0 9m7787camwh4m	begin :id := sys.dbms_transaction.local_transaction_id;	
2	3881	3 15:25:13	BHIS	plsqldev.t	WORKGROUP	ACTIVE	0.01	4	0 29bdp894vydq	declare Lines sys.dbms_output.chararr; begin :NumIn	

Double-click to view Detailed SQL Info.



TIP!

UNDO :
Excessive UNDO consumption indicates the presence of DELETE or UPDATE operations involving a large amount of data or long-running queries.



TUNE SQL

Tune Mode:

SQL_ID: Based on SQL_ID

SQL_TEXT: Based on SQL TEXT Optimization recommendation Script

TIP!

Analyze Report

```
Schema Name: PACSDFWSJ
SQL ID : 99dbcv5yrht9t
SQL Text : SELECT "A2"."INSTANCE_NUMBER", "A3"."PACS_SERIES_ID", "A3"."STUDY_INSTANCE_UID", "A3"."SERIES_INSTANCE_UID", "A3"."SERIES_NUMBER", "A4"."PACS_STUDY_ID", "A3"."IMAGE_COUNT", "A2"."IMAGE_DATA_TYPEID", "A2"."DISABLE_FLAG", "A2"."HOST_ID", "A1"."HOST_IP", "A1"."HOST_PORT", "A1"."SERVER_TYPE", "A2"."IMAGE_PATH", "A1"."USER_NAME", "A1"."USER_PASSWORD", "A1"."HOST_PATH", "A1"."AE_TITLE" FROM "RIS_PACS"
"A4", "SERIES_INFO" "A3", "IMAGE_INFO" "A2", "PACS_HOST_INFO" "A1"
WHERE "A3".DISABLE_FLAG=0 AND "A2".DISABLE_FLAG=0 AND
"A4".RIS_STUDY_ID=:1 AND "A2".HOST_ID=:1 HOST_ID(+)
AND "A2".PACS_SERIES_ID="A3".PACS_SERIES_ID AND
```

Advice Script

```
create index BHISYPACS.IKTUNE247F50002 on BHISYPACS.PA002_NEARAREASTUDY("STUDYINSTANCEUID", "STUDYDATE")
create index PACSDFWSJ.IKTUNE247F50001 on PACSDFWSJ.PA002_NEARAREASTUDY("STUDYDATE");
```

Based on SQL TEXT

SQL Text

```
select count(*) from PACSDFWSJ.PA002_NEARAREASTUDY where to_char
(organid)||'A'='ABC'
```

Parsing Schema: PACSDFWSJ

Advice Script

```
create index PACSDFWSJ.IKTUNE2480B0001 on PACSDFWSJ.PA002_NEARAREASTUDY("ORGANID"||'A');
```

Analyze Report

ID	Operation	Name	Rows	Bytes	Cost (%CPU)	Time
0	SELECT STATEMENT		1	8	1513 (1)	00:00:19
1	SORT AGGREGATE		1	8		
* 2	INDEX FAST FULL SCAN	IKTUNE37FA0001	6766	54128	1513 (1)	00:00:19

Tune SQL :

Users can submit optimization recommendations and the corresponding SQL queries to the application development vendor for confirmation, or they can directly implement the optimization suggestions.

Typically, adding the appropriate indexes to tables does not have a noticeable impact on the database, but it can result in significant performance improvements, often by orders of magnitude.



CATINFO

INST_ID	FACILITY	SEVERITY	DEST_ID	MSG_ERROR_CODE	MSG_TIMESTAMP	MESSAGE
2	Fetch Archive Log	Error	2	16047	2023-08-09 12:02:51	FAL: Error 16047 creating remote archived redo log file 'ORCL'
2	Log Transport Services	Error	2	16047	2023-08-09 12:02:51	Error 16047 for LNO:4 to 'ORCL'
1	Log Transport Services	Error	2	16047	2023-08-09 12:02:39	Error 16047 for LNO:2 to 'ORCL'
1	Fetch Archive Log	Error	2	16047	2023-08-09 12:02:39	FAL: Error 16047 creating remote archived redo log file 'ORCL'
2	Log Apply Services	Warning	0	16037	2023-08-09 12:02:11	MRP0: Background Media Recovery cancelled with status 16037

Click to view the details of anomaly.

主库		备库	
实例状态	●	实例状态	●
归档目标状态	●	传输滞后	●
redo 跟踪	●	应用滞后	●
最后7天数据文件	●	数据文件	●
最后7天严重事件	●	是否正在介质恢复	●
		最后7天严重事件	●
主库详情		备库详情	
IP	192.168.8.91	IP	192.168.8.71
端口号	1521	端口号	1521
服务名	orcl	服务名	orcl
DBID	1667387672	DBID	1667387672
是否RAC	YES	是否RAC	NO
数据库版本	Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production	数据库版本	Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
操作系统	Linux x86 64-bit	操作系统	Linux x86 64-bit
保护模式	MAXIMUM PERFORMANCE	保护模式	MAXIMUM PERFORMANCE
打开模式	READ WRITE	打开模式	READ ONLY WITH APPLY
连接状态	●	连接状态	●



ADG Status:

With this feature, you can monitor whether the database disaster recovery environment is in sync with the production database and check for any issues during the synchronization process.



2023-09-07 [00:00:00] TO 2023-09-10 [09:50:18] 最近天数 3 查询

开始时间	结束时间	时长(秒)	状态	输入类型	输出介质	输入大小	压缩
2023-09-09 19:00:00	2023-09-09 19:31:29	1888	COMPLETED	DB FULL	DISK	2.18T	1.
2023-09-08 19:00:00	2023-09-08 19:30:39	1837	COMPLETED	DB FULL	DISK	2.29T	1.
2023-09-07 19:00:00	2023-09-07 19:31:49	1908	COMPLETED	DB FULL	DISK	2.11T	1.

备份集

备份集	备份类型	控制文件	状态	开始时间	完成时间	时长(秒)	大小(GB)	压缩	路径
50080	Archivelog	不包含	AVAILABLE	2023-09-09 19:31:28	2023-09-09 19:31:28	0	0.06	NO	+NEWFRA/orcl/backup
50081	Archivelog	不包含	AVAILABLE	2023-09-09 19:31:28	2023-09-09 19:31:28	0	0.04	NO	+NEWFRA/orcl/backup
50082	Archivelog	不包含	AVAILABLE	2023-09-09 19:31:28	2023-09-09 19:31:28	0	0.08	NO	+NEWFRA/orcl/backup
50076	Full	不包含	AVAILABLE	2023-09-09 19:01:59	2023-09-09 19:06:15	256	89.82	NO	+NEWFRA/orcl/backup
50077	Full	不包含	AVAILABLE	2023-09-09 19:01:58	2023-09-09 19:10:46	528	250.99	NO	+NEWFRA/orcl/backup
50078	Full	不包含	AVAILABLE	2023-09-09 19:01:58	2023-09-09 19:26:43	1485	847.58	NO	+NEWFRA/orcl/backup
50079	Full	不包含	AVAILABLE	2023-09-09 19:01:58	2023-09-09 19:31:14	1756	1077.89	NO	+NEWFRA/orcl/backup
50075	Archivelog	不包含	AVAILABLE	2023-09-09 19:01:51	2023-09-09 19:01:57	6	2.66	NO	+NEWFRA/orcl/backup

备份消息

```

channel ORA_DISK_2: finished piece 1 at 09-SEP-23
piece handle=>+NEWFRA/orcl/backupset/2023_09_09/annnf0_tag20230909t193128_0.934.1147116689 tag=TAG20230909T193128 comment=none
channel ORA_DISK_2: backup set complete, elapsed time: 00:00:01
channel ORA_DISK_2: deleting archived log(s)
archived log file name=>+NEWFRA/orcl/archivelog/2023_09_09/thread_1_seq_128851.582.1147116685 RECID=270277 STAMP=1147116689
channel ORA_DISK_3: finished piece 1 at 09-SEP-23
piece handle=>+NEWFRA/orcl/backupset/2023_09_09/annnf0_tag20230909t193128_0.271.1147116689 tag=TAG20230909T193128 comment=none
channel ORA_DISK_3: backup set complete, elapsed time: 00:00:01
Finished Control File and SPFILE Autobackup at 09-SEP-23
piece handle=>+NEWFRA/orcl/autobackup/2023_09_09/s_1147116689.1142.1147116741 comment=NONE

```

- 1.List of backup tasks for the last N days
- 2.Backup sets for a specific backup task
- 3.RMAN logs for a specific backup task

3

RMAN Backup :

Physical backups are effective in preventing disasters caused by hard disk or storage system failures. Additionally, through physical backups, the database can be restored to a specific point in time in its history, addressing issues such as data loss due to accidental deletion. As a result, almost all production databases require physical backups.



SQL_ID 102g2pxay2px3hh PLAN_HASH 1153764205		SQL_ID 262spay2qx3hh PLAN_HASH 2206498027																																																																																																																																																																																																																																																													
目标SQL_ID 102g2pxay2px3hh PLAN_HASH 2206498027		替换计划																																																																																																																																																																																																																																																													
<pre>select /*+qb_name(apex\$104_400)*/ from(select a.* ,row_number() over(order by null) apxRownum from(select i.* from(select "PUBLIC_IP", "DB_IP", "SCAN_IP", "PORT", "SERVICE_NAME", "DBID", "VERSION", "DB_ROLE", "PROTECTION_MODE", "OPEN_MODE", "STATUS", from(select /*+ qb_name(apex\$inner) */d."PUBLIC_IP", d."DB_IP", d."SCAN_IP", d."PORT", d."SERVICE_NAME", d."DBID", d."PARALLEL", d."DB VERSION", d."DB ROLE", d."PROTECTION_MODE", d."STATUS", d."LAST_BAK" from(with v_public as(select listagg(d.ip ' ' d.alias ')' , ','br') WITHIN GROUP (ORDER BY d.alias) public_ip from ksystem_etc_hosts d where d.remote_guid= :PM00_GUID and d.role = 'primary public'), v_ip as(select nvl(listagg(d.ip ' ' d.alias ')' , ','br') WITHIN GROUP (ORDER BY d.alias), '-') vip_ip from ksystem_etc_hosts d where d.remote_guid= :PM00_GUID and d.role = 'primary vip public'), v_scan as(select nvl(listagg(d.ip ' ' d.alias ')' , ','br') WITHIN GROUP (ORDER BY d.alias), '-') scan_ip from ksystem_etc_hosts d where d.remote_guid= :PM00_GUID and d.role = 'primary vip public'), v_ip as(select nvl(listagg(d.ip ' ' d.alias ')' , ','br') WITHIN GROUP (ORDER BY d.alias), '-') vip_ip from ksystem_etc_hosts d where d.remote_guid= :PM00_GUID and d.role = 'primary vip public'), v_scan as(select nvl(listagg(d.ip ' ' d.alias ')' , ','br') WITHIN GROUP (ORDER BY d.alias), '-') scan_ip from ksystem_etc_hosts d where d.remote_guid= :PM00_GUID and d.role = 'primary vip public')) a where a.apxRownum = 1) b where b.apxRownum = 1)</pre>																																																																																																																																																																																																																																																															
Plan hash value: 1153764205																																																																																																																																																																																																																																																															
<table border="1"> <thead> <tr> <th>ID</th> <th>Operation</th> <th>Name</th> <th>ID</th> <th>Operation</th> <th>Name</th> <th>Rows</th> <th>Bytes</th> <th>Cost (%)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>SELECT STATEMENT</td> <td></td> <td>0</td> <td>SELECT STATEMENT</td> <td></td> <td></td> <td></td> <td>49 (100)</td> </tr> <tr> <td>*</td> <td>VIEW</td> <td></td> <td>*</td> <td>VIEW</td> <td></td> <td>8168</td> <td>529M</td> <td>49 (50)</td> </tr> <tr> <td>2</td> <td>WINDOW NOSORT STOPKEY</td> <td></td> <td>2</td> <td>WINDOW NOSORT STOPKEY</td> <td></td> <td>8168</td> <td>399M</td> <td>49 (50)</td> </tr> <tr> <td>3</td> <td>NESTED LOOPS</td> <td></td> <td>3</td> <td>MERGE JOIN CARTESIAN</td> <td></td> <td>8168</td> <td>399M</td> <td>49 (50)</td> </tr> <tr> <td>4</td> <td>NESTED LOOPS</td> <td></td> <td>4</td> <td>MERGE JOIN CARTESIAN</td> <td></td> <td>1</td> <td>49320</td> <td>18 (0)</td> </tr> <tr> <td>5</td> <td>NESTED LOOPS</td> <td></td> <td>5</td> <td>MERGE JOIN 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BY	KSYSTEM_ETC_HOSTS	1	72	1 (0)	15	VIEW		15	TABLE ACCESS FULL	KSYSTEM_ETC_HOSTS	1	72	3 (0)	16	SORT GROUP BY		16	BUFFER SORT		1	16385	12 (0)	*	17	TABLE ACCESS FULL	17	VIEW		1	16385	3 (0)	18	VIEW		18	SORT GROUP BY		1	72	1 (0)	*	19	SORT GROUP BY	19	TABLE ACCESS FULL	KSYSTEM_ETC_HOSTS	1	72	3 (0)	*	20	TABLE ACCESS FULL	20	BUFFER SORT		1	16385	15 (0)	21	VIEW		21	VIEW		1	16385	3 (0)	22	SORT UNIQUE		22	SORT GROUP BY		1	72	1 (0)	*	23	COLLECTION ITERATOR PICKLER PATCH	23	TABLE ACCESS FULL	KSYSTEM_ETC_HOSTS	1	72	3 (0)		PUN_CHECK_		24	BUFFER SORT		8168	15M	45 (50)				25	VIEW		8168	15M	30 (4)				26	HASH UNIQUE		8168	16336	30 (4)
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Plan Exchange:

Some SQL need to improve their performance by adding HINTs directly within the statements, but it's challenging to add HINTs directly to the source code. In such cases, you can achieve the goal of altering SQL and improving SQL execution efficiency without modifying the source code by using Plan Exchange.



DB Level TOP 5 EVENTS

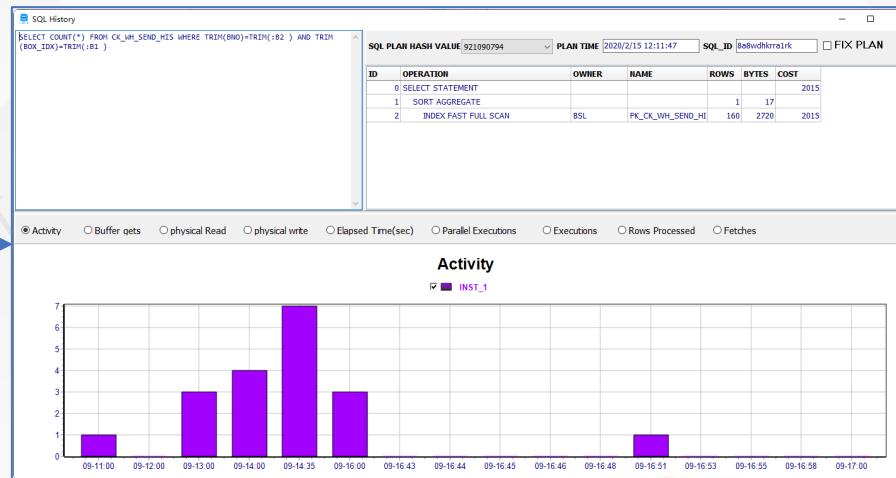
2023-10-18 02:14:57 TO 2023-10-18 08:14:57 Top Events

INST_ID	EVENT	CLASS	PCT
1	DB CPU	CPU	94.69
1	db file sequential read	User I/O	2.69
1	log file parallel write	System I/O	0.55
1	db file scattered read	User I/O	0.55
1	gc cr multi block request	Cluster	0.32
2	DB CPU	CPU	80.92
2	db file sequential read	User I/O	7.97
2	SQL*Net message from dblink	Network	3.70
2	log file parallel write	System I/O	2.03
2	null event	Other	0.98

TOP n Sessions

2023-10-18 02:14:57 TO 2023-10-18 08:14:57 Top Sess.

INST_ID	SID	SERIAL#	CLIENT	ICTIVIT	EXEC_NU	CPU(%)	WAIT(%)
1	1604	11883	[sqlplus@kdb01 (TNS V1-V3)][kd]	2158	1	100	0
2	233	52143	[w3wp.exe][WORKGROUP\USER-D24P]	115	112	96.52	3.48
2	1035	55803	[oracle@kdb02 (J000)][kdb02]	83	40	19.28	80.72
1	3084	59891	[w3wp.exe][WORKGROUP\USER-VM15]	69	59	79.71	20.29
1	1832	8237	[w3wp.exe][WORKGROUP\DFWSJ119]	66	58	75.76	24.24
2	3428	35687	[w3wp.exe][WORKGROUP\USER-D24P]	64	63	98.44	1.56
2	2625	32263	[w3wp.exe][WORKGROUP\USER-157]	61	58	78.69	21.31
2	1488	10363	[w3wp.exe][WORKGROUP\USER-DFWS]	53	51	81.13	18.87
1	1145	40423	[JDBC Thin Client][localhost.1]	48	6	31.25	68.75
2	2282	33439	[w3wp.exe][WORKGROUP\DFWSJ119]	47	44	72.34	27.66
2	3767	64859	[w3wp.exe][WORKGROUP\USER-DFWS]	44	38	84.09	15.91
2	917	62747	[w3wp.exe][WORKGROUP\DFWSJ119]	41	40	85.37	14.63



TOP SQL

2023-10-18 02:14:57 TO 2023-10-18 08:14:57 Top SQL

SID	Serial#	SQL_ID	Topn Program		Machine	Module			
			SQL_ID	LCTIVIT	PCT	CPU(%)	WAIT(%)	EXEC_NU	SQL_TEXT
		f5kskn9df2h2p		2158	51.48	100	0	1	select count(*) from dba_objects,dba...
		16c544n0s53wn		251	5.99	100	0	251	DELETE FROM DEP_TRAN_JOBLOG WHERE...
		6z6q1r9fa7jn		88	2.10	98.86	1.14	88	select t.organid, t.deptid,
		2j6kd1lpznad4		65	1.55	35.38	64.62	52	UPDATE (SELECT T.* FROM SF018_HJSFD...
		gn8cgpd8zunyb		62	1.48	41.94	58.06	54	select distinct a.res_sidfrom li014_p...
		6b1p2q59am75j		55	1.31	100	0	47	select distinct a.name,trunc((to_cha...
		9m992b2xfjkff		50	1.19	92	8	48	select a.* ,d.sickdocid,e.pycode,e.wb...
		145f58838asjx		50	1.19	100	0	50	UPDATE (SELECT * FROM SF018_HJSFD_TMP...
		9zjwz3qmh3c7c		43	1.03	95.35	4.65	32	select a.* ,c.sampletypeid,d.sampletyp...
		09kg43ht6cbrg		36	0.86	11.11	88.89	36	update "YM021_FYMX" set "FYSTATE" =
		sq25hp3agd79p		33	0.79	100	0	33	DELETE FROM SF018_HJSFD_TMP WHERE ORG...

Historical Backtracking:

With this feature, you can easily trace back to a specific time period in the past, analyzing the fundamental aspects at different levels from the database level to the session level and SQL level. This helps identify issues at various levels.





AWR

Snapshot Time Period

Save as Local HTML File

Instance Number

2023-10-18 07:59:07 (41315) TO 2023-10-18 09:59:08 (41317) INST_ID 1 Get Report Save Report

WORKLOAD REPOSITORY report for

DB Name	DB Id	Instance	Inst num	Startup Time	Release	RAC
ORCL	1525508968 orcl1		1	06-Apr-23 10:04	11.2.0.4.0	YES

Host Name	Platform	CPUs	Cores	Sockets	Memory (GB)
kdb01	Linux x86 64-bit	40	20	2	377.41

Snap Id	Snap Time	Sessions	Cursors/Session	Instances
Begin Snap:	41315 18-Oct-23 07:59:07	192	4.2	2
End Snap:	41317 18-Oct-23 09:59:08	211	5.1	2
Elapsed:	120.01 (mins)			
DB Time:	486.94 (mins)			

Report Summary

Load Profile

	Per Second	Per Transaction	Per Exec	Per Call
DB Time(s):	4.1	0.2	0.00	0.00
DB CPU(s):	3.9	0.2	0.00	0.00
Redo size (bytes):	142,163.4	7,041.2		
Logical read (blocks):	515,946.9	25,554.2		



AWR Report :

AWR reports are widely favored by DBAs for database diagnostics. With this feature, users can easily obtain and save AWR reports, eliminating the need for traditional methods that involve logging into the operating system.



Parameters :

Many database performance issues are closely related to the database parameter settings. With this feature, you can easily understand the configuration of all parameters in the database system.

Filter

↑

INST_ID	NAME	VALUE	DESP
1	buffer_pool_keep		Number of database blocks/latches in keep buffer pool
2	buffer_pool_keep		Number of database blocks/latches in keep buffer pool
1	buffer_pool_recycle		Number of database blocks/latches in recycle buffer pool
2	buffer_pool_recycle		Number of database blocks/latches in recycle buffer pool
1	db_block_buffers	0	Number of database blocks cached in memory
2	db_block_buffers	0	Number of database blocks cached in memory
1	log_buffer	250003456	redo circular buffer size
2	log_buffer	250003456	redo circular buffer size
1	use_indirect_data_buffers	FALSE	Enable indirect data buffers (very large SGA on 32-bit platforms)
2	use_indirect_data_buffers	FALSE	Enable indirect data buffers (very large SGA on 32-bit platforms)



ALERT LOG

Filter

WAY 1 WAY 2

INST1 ▾ Last(Records) 5000 Text Match OR iather ALER

ORA-1653: unable to extend table RHIPMID.EMR_DN_UPLOAD by 8 in
2023-06-12 14:02:10.021000 +08:00
tablespace RHIPMID_TS

ORA-1654: unable to extend index RHIPMID.SYS_C00330948 by 1024 in tablespace RHIPMID_TS
ORA-1654: unable to extend index RHIPMID.IX_EMR_OUTPAT_COST_D_VISORG by 1024 in tablespace RHIPMID_TS
ORA-1653: unable to extend table RHIPMID.EMR_OUTPAT_COST by 1024 in
2023-06-12 14:02:13.147000 +08:00
tablespace RHIPMID_TS

ORA-1653: unable to extend table RHIPMID.EMR_DN_UPLOAD by 8 in
2023-06-12 14:02:45.853000 +08:00
tablespace RHIPMID_TS

ORA-1653: unable to extend table RHIPMID.EMR_OUTPAT_PRES by 1024 in
2023-06-12 14:02:53.292000 +08:00
tablespace RHIPMID_TS

ORA-1653: unable to extend table RHIPMID.EMR_DN_UPLOAD by 8 in
2023-06-12 14:02:56.089000 +08:00
tablespace RHIPMID_TS

ORA-1653: unable to extend table RHIPMID.EMR_OUTPAT_PRES by 1024 in
ORA-1653: unable to extend table RHIPMID.EMR_OUTPAT by 1024 in
2023-06-12 14:03:03.443000 +08:00
tablespace RHIPMID_TS

ORA-1653: unable to extend table RHIPMID.EMR_DN_UPLOAD by 8 in
2023-06-12 14:03:10.392000 +08:00
tablespace RHIPMID_TS

ORA-1653: unable to extend table RHIPMID.EMR_OUTPAT_COST by 1024 in
2023-06-12 14:03:13.562000 +08:00
tablespace RHIPMID_TS

ORA-1653: unable to extend table RHIPMID.EMR_DN_UPLOAD by 8 in
2023-06-12 14:03:16.151000 +08:00
tablespace RHIPMID_TS

ORA-1653: unable to extend table RHIPMID.EMR_OUTPAT_PRES by 1024 in
ORA-1653: unable to extend table RHIPMID.EMR_OUTPAT by 1024 in
2023-06-12 14:03:46.122000 +08:00
tablespace RHIPMID_TS

ORA-1653: unable to extend table RHIPMID.EMR_OUTPAT_PRES by 1024 in
2023-06-12 14:05:44.290000 +08:00
tablespace RHIPMID_TS

TIP!

Alert Logs:

In Way 1, you can retrieve the database ALERT logs quickly, but it only allows retrieval based on the most recent N entries. If you need to retrieve logs within a specific time range, you can use Way 2. Exceptional log content will be highlighted in red by KTuner.

Note: This feature is only applicable to the LINUX operating system.





ALERT LOG

Filter

ID	TIME	LEVEL	MESSAGE
9155249	2023-10-18 00:19:06.11	16	Thread 1 advanced to log sequence 129953 (LGWR switch)
9155250	2023-10-18 00:19:06.11	16	Current log# 13 seq# 129953 mem# 0: +DATA/orcl/onlinelog/group_13.295.1034809801
9155251	2023-10-18 00:19:06.25	16	Archived Log entry 274575 added for thread 1 sequence 129952 ID 0x5aee2765 dest 1:
9155252	2023-10-18 00:59:57.41	16	Auto-tuning: Starting background process GTX1
9155253	2023-10-18 00:59:57.41	16	Starting background process GTX1
9155254	2023-10-18 00:59:57.42	16	GTX1 started with pid=48, OS id=97000
9155255	2023-10-18 01:00:02.38	16	Auto-tuning: Starting background process GTX2
9155256	2023-10-18 01:00:02.38	16	Starting background process GTX2
9155257	2023-10-18 01:00:02.39	16	GTX2 started with pid=160, OS id=97013
9155258	2023-10-18 01:00:07.30	16	Auto-tuning: Starting background process GTX3
9155259	2023-10-18 01:00:07.30	16	Starting background process GTX3
9155260	2023-10-18 01:00:07.31	16	GTX3 started with pid=181, OS id=97017
9155261	2023-10-18 01:00:12.31	16	Auto-tuning: Starting background process GTX4

TIP!

Alert Logs:

Way 2 allows for the accurate retrieval of ALERT log content within a specified time frame, but it may be slower than Way 1. This feature operates in a non-blocking manner, meaning you can perform other tasks while retrieving the logs.





Event Details

The screenshot shows the Oracle Alert Diagnosis interface. On the left, a table titled "Serious Events" lists various database errors. One row, corresponding to event ID 289075, is highlighted with a red border. An arrow points from this row to a larger window on the right labeled "Event Detail". This detail window contains a large amount of technical log output, including key-value pairs for "IMPACT4", "KEY_NAME", "KEY_VALUE", and other diagnostic parameters like "ProcId", "Client_ProcId", "SID", and "ADR Home". The log also includes sections for "INCIDENT_FILE", "OWNER_ID", and "ADR_HOME".



Alert Diagnosis:

Through this feature, users obtain a summary of the database error event list and context information related to the errors.

Note: This feature is applicable to the LINUX operating system.





NAME	TARGET	STATE	SERVER	STATE_DETAILS
Local Resources				
ora.DATA.dg	ONLINE	ONLINE	kdb01	
	ONLINE	ONLINE	kdb02	
ora.LISTENER.lsnr	ONLINE	ONLINE	kdb01	
	ONLINE	ONLINE	kdb02	
ora.NEWFRA.dg	ONLINE	ONLINE	kdb01	
	ONLINE	ONLINE	kdb02	
ora.OCR.dg	ONLINE	ONLINE	kdb01	
	ONLINE	ONLINE	kdb02	
ora.asm	ONLINE	ONLINE	kdb01	
	ONLINE	ONLINE	kdb02	
ora.gsd	ONLINE	ONLINE	kdb01	Started
	ONLINE	ONLINE	kdb02	Started
ora.netl.network	OFFLINE	OFFLINE	kdb01	
	OFFLINE	OFFLINE	kdb02	
ora.netl.network	ONLINE	ONLINE	kdb01	
	ONLINE	ONLINE	kdb02	
ora.ons	ONLINE	ONLINE	kdb01	
	ONLINE	ONLINE	kdb02	
Cluster Resources				
ora.LISTENER_SCAN1.lsnr	1	ONLINE	ONLINE	kdb01
ora.cvu	1	ONLINE	ONLINE	kdb02
ora.kdb01.vip	1	ONLINE	ONLINE	kdb01
ora.kdb02.vip	1	ONLINE	ONLINE	kdb02
ora.oc4j	1	ONLINE	ONLINE	kdb02
ora.orcl.db	1	ONLINE	ONLINE	kdb01
	2	ONLINE	ONLINE	kdb02
ora.scan1.vip	1	ONLINE	ONLINE	kdb01
				Open
				Open



Check the current state of the grid cluster; the output results should be equivalent to:

\$crsctl status res -t

Note: This feature is applicable to Linux systems.



2023-10-18 02:14:57 TO 2023-10-18 12:14:57 AUTO DIAG Save Report

KTuner Database Performance Diagnosis Report

- [1. Multiple SQL Plans](#)
- [2. Unstable Performance SQL](#)
- [3. Missing Index on Foreign Key Column](#)
- [4. Lack of Histogram on Low Selectivity Column](#)
- [5. Missing Index on the Column With High Selectivity Used in WHERE Sub-statement](#)
- [6. Using SELECT * to Query All Columns](#)
- [7. Using Scalar Sub-query](#)
- [8. Reference the Same Table Multiple Times in a SQL](#)
- [9. Using Custom Function in SQL](#)
- [10. Unnest Filter Plan](#)
- [11. Nested-Loop Subquery Returned Too Much Rows](#)
- [12. Nested-Loop Subquery Using FULL TABLE SCAN](#)



Automatic diagnostic functionality can identify major factors affecting database performance, such as non-standard SQL queries and inappropriate database parameters.

Users can submit the list of relevant SQL queries from the report to the application development vendor and encourage them to make improvements.

This feature may require an extended execution time, and it operates in a non-blocking manner, meaning it does not interfere with other operations during the diagnostic process.





With the Partitioning, Real Application Clusters, Automatic Storage Management, OLAP, Data Mining and Real Application Testing options

REAL-TIME SESSIONS										
INST_ID	SID	PID	USER	PROGRAM	MODULE	ACTION	SQL_ID	STATUS	WAIT	WAIT_EVENT
1	3993,3	15678	SYS	oraagent.bin@kdb01 (TNS V1-V3)	oraagent.bin@kdb01 (TNS V1-V3)		4qm8a3w6alrfd	INACTIVE	WAITING	SQL*Net message from client
1	3878,3	15670	SYS	oraagent.bin@kdb01 (TNS V1-V3)	oraagent.bin@kdb01 (TNS V1-V3)			INACTIVE	WAITING	SQL*Net message from client
2	1375, 24081	85507	RHIP	oracle@kdb02 (J007)	DEMS_SCHEDULER	ASPT_YL01	7j384dwuuhvs	ACTIVE	WAITING	single-task message
2	348, 6351	97323	RHIP		etlMons.exe			INACTIVE	WAITING	SQL*Net message from client
1	3651, 5825	193114	RHIPZVYIMID	etlMons.exe	etlMons.exe			INACTIVE	WAITING	SQL*Net message from client
1	2853, 42933	193112	RHIP	etlMons.exe	etlMons.exe			INACTIVE	WAITING	SQL*Net message from client
2	2510, 47621	177381	RHIP	pisqldev.exe	PL/SQL Developer	命令窗口 - 新建		INACTIVE	WAITING	SQL*Net message from client
2	3991, 56357	176155	RHIP	pisqldev.exe	PL/SQL Developer	Main session		INACTIVE	WAITING	SQL*Net message from client
1	692, 45811	37090	RHIP	pisqldev.exe	PL/SQL Developer	命令窗口 - 新建		INACTIVE	WAITING	SQL*Net message from client
2	3313, 21429	44258	BHIS	pisqldev.exe	PL/SQL Developer	SQL 窗口 - 查询 table YS006		INACTIVE	WAITING	SQL*Net message from client
2	2513, 50621	89593	BHISY	pisqldev.exe	PL/SQL Developer	Create / Modify object		INACTIVE	WAITING	SQL*Net message from client
1	2403, 47137	174951	BHIS	pisqldev.exe	PL/SQL Developer	SQL 窗口 - 查询 table OUSER		INACTIVE	WAITING	SQL*Net message from client
1	1490, 12529	174715	BHIS	pisqldev.exe	PL/SQL Developer	SQL 窗口 - 查询 table OUSER		INACTIVE	WAITING	SQL*Net message from client
1	4335, 7415	112164	BHIS	pisqldev.exe	PL/SQL Developer	SQL 窗口 - 新建		INACTIVE	WAITING	SQL*Net message from client
2	1486, 55481	40119	RHTS	nlsqldev.exe	PL / SQL Developer	SQL 窗口 - 新建		INACTIVE	WAITING	SQL*Net message from client

INST 1 SQLPLUS UNBACKUP LOSABLE SESSIONS LISTENER O-PATCHES FS INFO SWAP CPU LOAD NET LOAD CRONTAB CUSTOM SCRIPTS shell12 NEW EXEC MODI DEL HISTORY

Enter your command or SQL here.

High-frequency functions

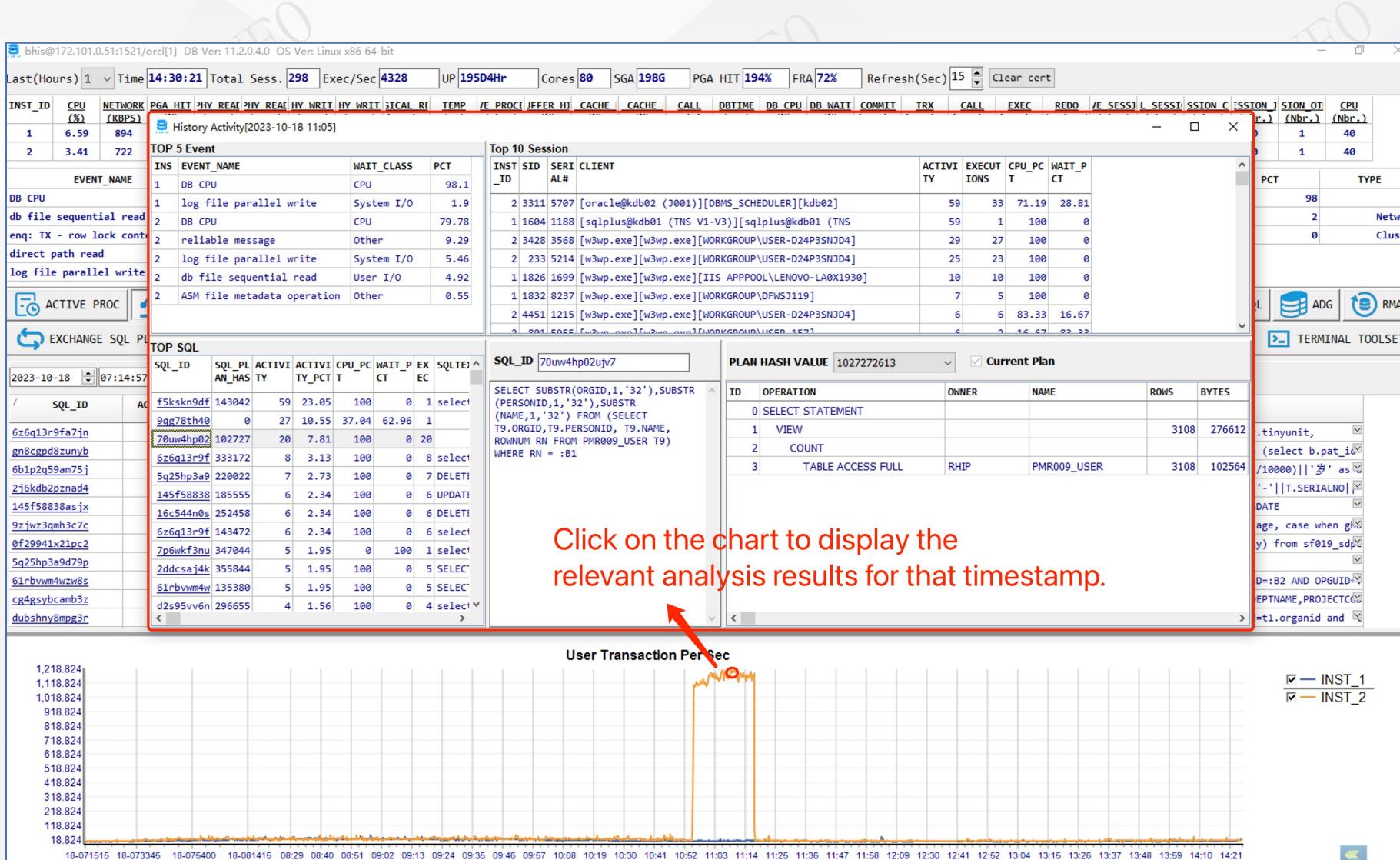
Customize your SHELL script

Through this feature, it is possible to avoid logging into the operating system via methods like SSH and perform routine command checks quickly. For security reasons, high-risk commands in this context will be blocked by KTuner, such as 'rm,' 'shutdown,' 'reboot,' and the like.

Note: This feature is applicable to Linux systems.



Function Area--Chart

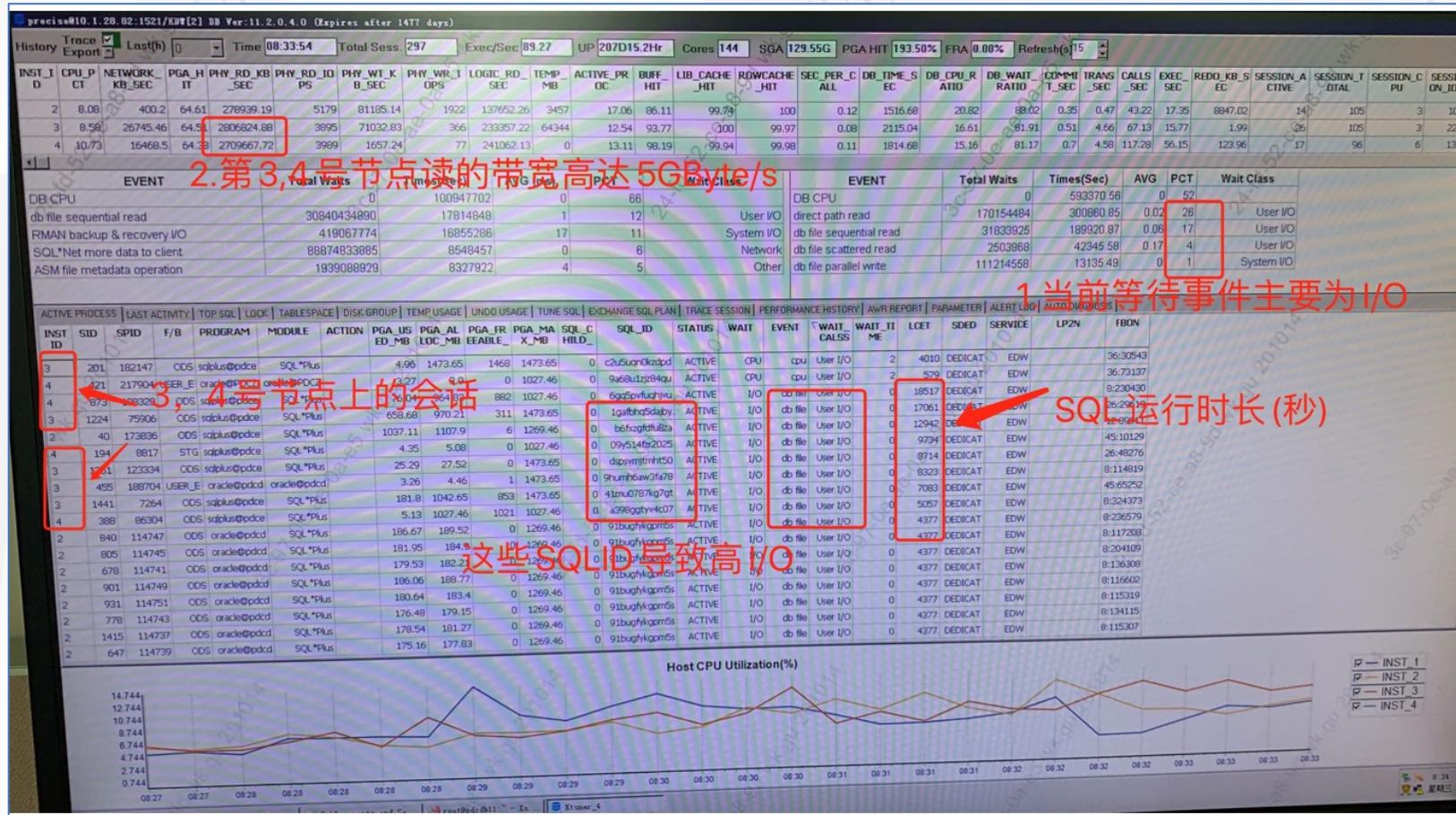


The popup window can analyze the load conditions at different levels, including database-level, session-level, and SQL-level, for that specific timestamp.



CASE - 1

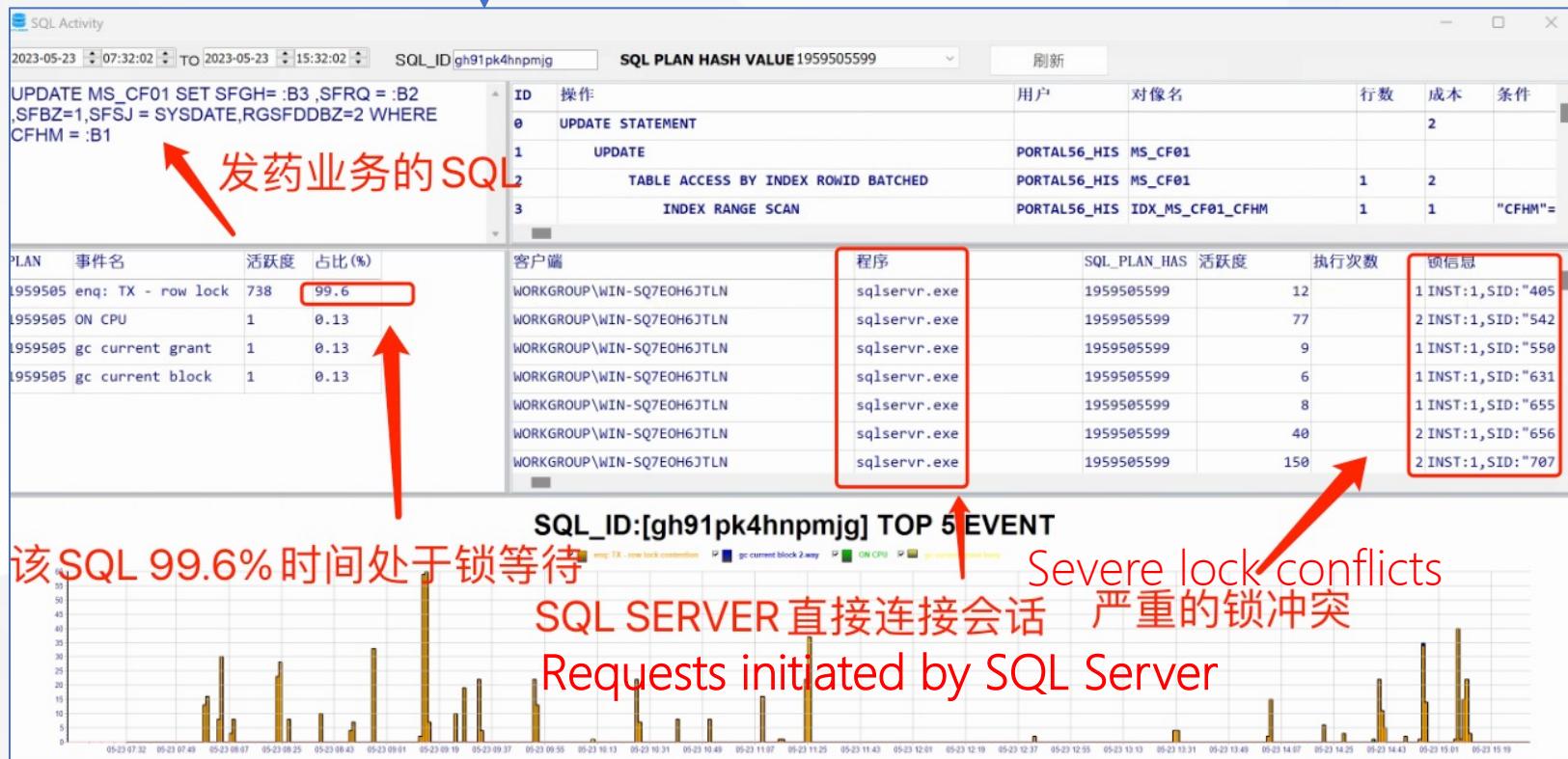
TIP!



The main UI of KTuner can provide a comprehensive overview of the major issues facing the current database system. In situations where remote access is not possible, sending the main interface through channels like WeChat/WhatsApp to an experienced DBA can quickly pinpoint the root causes of system problems.

CASE - 2

675jp93pf4p8c	441	8416	0.74 ON CPU:100%	update l_lis_sqd Set fphm =1 Where DOCTREQUESTNO =:1
gh91pk4hnpmjg	746	12	1.19 enq: TX - row lock contention:99.6%,ON CPU:.13%,gc current block 2-way:.13%,gc current grant busy:.13%	UPDATE MS_CF01 SET SFGH= :B3 ,SFRQ = :B2 ,SFBZ=1,SFSJ = SYSDATE,RGSFDBZ=2 WHERE CFHM = :B1
pyfub2xazu7q3	1946	389	0.02 ON CPU:99.95%,gc cr block 2-way:.05%	SELECT MRQC_SXTX.JLXH,
gz1tw62m7xasv	50969	362	0.15 ON CPU:99.44%,gc cr block 2-way:.43%,gc cr block busy:.07%,PGA	SELECT ZYH_YEPB,(CASE WHEN YWSL > 0 THEN 1 ELSE 0 END) AS DFHPB,1 AS TYPE
gz1tw62m7xasv	50969	362	0.15 ON CPU:99.44%,gc cr block 2-way:.43%,gc cr block busy:.07%,PGA	SELECT ZYH_YEPB,(CASE WHEN YWSL > 0 THEN 1 ELSE 0 END) AS DFHPB,1 AS TYPE
7kasb0b9dyjcjd	15314	6655	0.05 ON CPU:98.5%,gc cr block 2-way:.95%,PGA memory operation:.46%,gc	select brbq,zyh,yepb from vi_bq_ywtx_dzx
cb6xstpqtxh47	2983	363078	14.28 ON CPU:86.83%,direct path write temp:9.15%,direct path read	select sum(zjje),rq,ksdm from v_kry_mzylsr where to_date(rq,'yyyy-MM-dd') >= to_date('2023-05-2

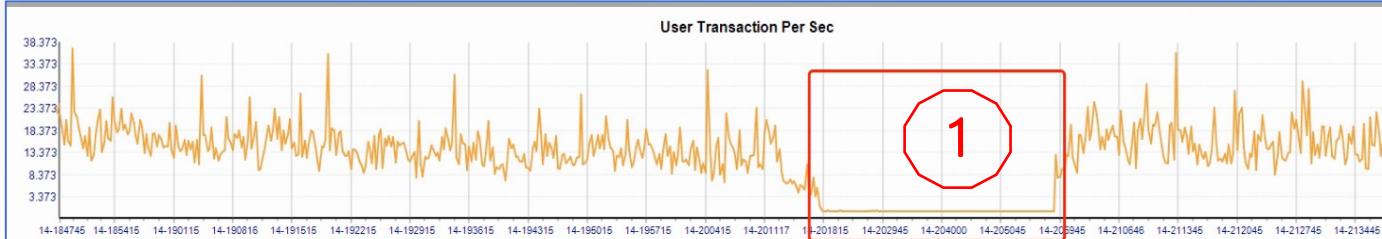


TIP!

Lock conflicts are a frequent issue faced by OLTP systems. KTuner can quickly pinpoint the source session information and the reasons causing lock conflicts.

CASE - 3

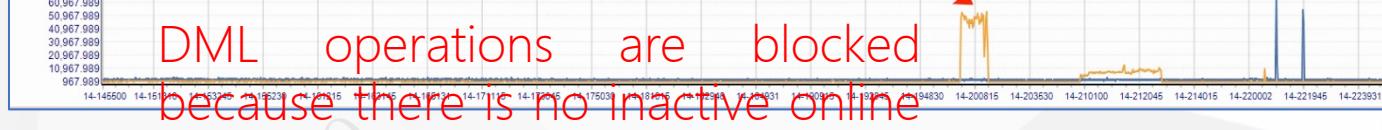
TIP!



方式1 方式2

2023-08-14 20:00:00 TO 2023-08-14 20:55:00 获取ALERT日志 过滤 new

INDEX	TIME	MESSAGE_LEVEL	MESSAGE_TEXT
7091193	2023-08-14 20:10:12.37	16	Thread 1 cannot allocate new log, sequence 280152
7091286	2023-08-14 20:10:51.40	16	Thread 1 cannot allocate new log, sequence 280153
7091328	2023-08-14 20:11:45.47	16	Thread 1 cannot allocate new log, sequence 280154
7091336	2023-08-14 20:12:24.55	16	Thread 1 cannot allocate new log, sequence 280155

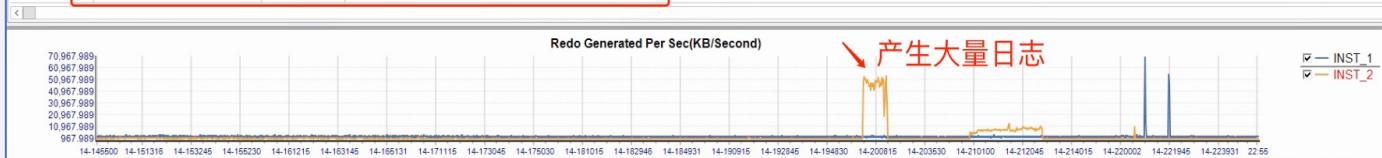


DML operations are blocked because there is no inactive online redo log available for use.

方式1 方式2

2023-08-14 20:00:00 TO 2023-08-14 20:55:00 获取ALERT日志 过滤 new

INDEX	TIME	MESSAGE_LEVEL	MESSAGE_TEXT
7091193	2023-08-14 20:10:12.37	16	Thread 1 cannot allocate new log, sequence 280152
7091286	2023-08-14 20:10:51.40	16	Thread 1 cannot allocate new log, sequence 280153
7091328	2023-08-14 20:11:45.47	16	Thread 1 cannot allocate new log, sequence 280154
7091336	2023-08-14 20:12:24.55	16	Thread 1 cannot allocate new log, sequence 280155



REDO SWITCH

日期	实例	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
2023-08-14	1	14	12	11	11	13	13	12	15	15	16	14	13	12	13	15	14	13	11	12	26	14	16		
2023-08-14	2	6	4	3	4	4	4	6	4	5	6	5	5	5	4	4	5	5	4	4	49	26	5	8	
2023-08-13	1	13	12	11	12	12	12	13	12	13	13	12	12	12	12	12	12	12	12	12	12	12	12	11	
2023-08-13	2	6	4	3	4	4	4	4	4	5	4	4	4	4	4	4	5	4	4	4	4	4	4	3	

1、SYMPTOMS:

- ① During this time period, the number of transactions is zero.
- ② There is a sharp increase in REDO volume during this time.
- ③ A large amount of REDO generation during this time period leads to blocking.
- ④ The REDO switch frequency is too high.

2、Conclusion :

Bulk data processing depletes idle REDO, resulting in the blocking of DML SQL operations throughout the entire database.

3、ACTION :

- Increase the size of online REDO logs.
- Increase the number of online REDO log groups.
- Avoid performing batch processing during peak business hours.



CATINFO

CASE - 4

SQL Activity

2023-08-08 09:57:59 TO 2023-08-08 11:57:59 SQL_ID 7u8vkv42g232w SQL PLAN HASH VALUE 4027524544 刷新

```

select t1.ownPay,t2.negoDrug
from (
    select NVL(SUM(NVL(MUDR.SELFPAY_AMOUNT, 0)), 0) as ownPay, 1 as rid
    from bms.MIPS_UPLOAD_DETAIL_RESULTS MUDR
    where MUDR.MIPS_PAT_VISIT_INFO_ID = :1
        and MUDR.CANCEL_FLAG = '0'
) t1,
(
    select NVL(SUM(NVL(MUDR.TOTAL_AMOUNT, 0)), 0) as negoDrug, 1 as rid
    from bms.MIPS_UPLOAD_DETAIL_RESULTS MUDR
)

```

ID	操作	用户	对象名	行数	成本	条件	STALE
0	SELECT STATEMENT				97943		
1	NESTED LOOPS			1	97943		
2	VIEW			1	48949		
3	SORT AGGREGATE			1			
4	TABLE ACCESS FULL	BMS	MIPS_UPLOAD_DETAIL_RESUL	41	48949		NO
5	VIEW			1	48993		
6	SORT AGGREGATE			1			
7	TABLE ACCESS FULL	BMS	MIPS_UPLOAD_DETAIL_RESUL	1	48993		NO

PLAN	事件名	活跃度	占比
402752	ON CPU	1992	99.9
402752	gc current block	1	0.05
402752	gc cr block 2-way	1	0.05

客户端	程序	SQL_PLAN_H	活跃度	执行次数	锁信息
bak-mips-slave1	JDBC Thin Client	4027524544	979	713	
bak-mips-slave2	JDBC Thin Client	4027524544	942	676	
sc-mips-slave1	JDBC Thin Client	4027524544	40	26	
sc-mips-slave2	JDBC Thin Client	4027524544	33	25	

SQL_ID: [7u8vkv42g232w] TOP 5 EVENT

ON CPU gc current block 2-way gc cr block 2-way

方式 方式 SQL_ID 7u8vkv42g232w 超时(秒) 80 优化分析

分析报告:

Schema Name: BMS
SQL ID : 7u8vkv42g232w
SQL Text : select t1.ownPay, t2.negoDrug
from (
 select NVL(SUM(MUDR.SELFPAY_AMOUNT, 0)), 0)
as ownPay, 1 as rid
 from bms.MIPS_UPLOAD_DETAIL_RESULTS MUDR
 where MUDR.MIPS_PAT_VISIT_INFO_ID = :1
 and MUDR.CANCEL_FLAG = '0'
) t1,
(
 select NVL(SUM(MUDR.TOTAL_AMOUNT, 0)), 0)
as negoDrug, 1 as rid
 from bms.MIPS_UPLOAD_DETAIL_RESULTS MUDR
 where MUDR.MIPS_PAT_VISIT_INFO_ID = :2
 and MUDR.bi_nego_drug_flag = '1'
 and MUDR.CANCEL_FLAG = '0'
) t2
where t1.rid = t2.rid

Bind Variables :
1 = (NUMBER) 396917
2 = (NUMBER) 396917

FINDINGS SECTION (1 finding)



- ① Through **【SQL ANALYSIS】**, KTuner identifies full table scans with high costs in the execution plan.
- ② Using **【TUNE SQL】**, KTuner diagnoses the need to add the appropriate indexes.



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Q & A



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