HP Operations Smart Plug-in for Oracle

for HP Operations Manager for HP-UX, Linux, and Solaris

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Reference Guide

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Contents

1 Oracle Policies

This chapter provides detailed and summary listings of the HP Operations Smart Plug-in for Databases (DB SPI) policies for Oracle explaining pertinent information about how they work, text contained in the DB SPI Oracle logfile policies, and DB SPI Oracle Scheduled task policies. The information provided here should prove valuable in understanding each metric, especially if customization is desired.

Inside Oracle Policies

DB SPI measurement threshold policies are designed to be efficient and easy to use. In fact, you may want to use most of the policies without making any modifications whatsoever. This document provides the detailed information you need if you decide to customize any of the policies.

For more information on all metrics contained in the chapter, see Oracle Metric Summary on page 14. The tables that follow show the detailed information for each Oracle metric.

Metric Column Key

Some columns in the metric summaries contain abbreviations or values that can be interpreted as follows:

Column Heading	Column content
INTERVAL	Frequency at which a metric is collected and analyzed; m= minutes h=hour d=day
RESET	W/O reset: Without reset Cont = Continuous ##% = Reset Value (With Reset)
THRESHOLD (Default Threshold)	Any "0.5" value means that the threshold is set at "0."Because HPOM alarms occur on <= or >=, the threshold is set to 0.5.

Column Heading	Column content
TYPE)	S=Server D=Database O=Object
A or G or both	A=alarming metric G=graphing metric
RPT ACCESS	Report Access (refers to whether DB SPI-generated ASCII reports are available and how to access them): Auto=Automatic Action Opt=Operator Action Tool=Tool Bank

Not all columns appear in all database metrics, as some data is not available for some database applications; a blank column represents "Not Applicable or Not Available."

Oracle Metric Summary

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E001_DbInstanceStat	Database status	Status	5m	2.5 1.5 0.5	Max	W/O	Critical	A	N/A	N/A
E002_ProcessStatus	Database process check (DBWn, RECO, ARCn and DB__)	Status	5m	0.5	Max	W/O	Critical	A	N/A	N/A
E003_TblSpaceFreeCnt	# of tablespaces with low free extents	Space	N/A	0.5	Max	W/O	Major	A	Auto & Tool	N/A
E203_TableSpaceFree (drill-down)	Tablespaces with low free space; drill down	Space	15m	1	Min	W/O	Major	A	Auto	N/A

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E004_UsersTmpDfltCnt	# of users with default tablespace set to SYSTEM	Space	1h	0.5	Max	W/O	Minor	A	Auto & Tool	N/A
E005_ObjctsForignCnt	# of foreign objects in SYSTEM tablespace	Space	1h	0.5	Max	W/O	Minor	A	Auto & Tool	N/A
E006_TblSpFreePctCnt	# of tablespaces with low free space percentage	Space	(*)	0.5	Max	W/O	Major	A & G	Auto, Opt & Tool	Table space
E206_TblSpFreePct	Tablespaces with low free space (drill down)	Space	(*)	10%	Min	W/O	Major	A	Opt	N/A
E007_TblSpcStatusCnt	# of tablespaces not ONLINE	Space	5m	0.5	Max	W/O	Critical	A & G	Auto, Opt & Tool	Table space
E008_TSBReadRatioCnt	# of tblspaces with high ratio of block to physcial reads	Space	1h	0.5	Max	W/O	Minor	A & G	Auto, Opt & Tool	Table space
E009_TSTmpExntPctCnt	# of tablespaces with high use of temp segments to total	Space	1h	0.5	Max	W/O	Minor	A & G	Auto, Opt & Tool	Table space

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E011_TblSpcFrgmntCnt	# of fragmented tablespaces	Space	5m	0.5	Max	W/O	Minor	A & G	Auto, Opt & Tool	Table space
E014_DataFStatusCnt	# of datafiles not online	Space	5m	0.5	Max	W/O	Critical	A	Auto, Opt & Tool	N/A
E016_SegmntExtendCnt	# of segments that cannot extend	Space	15m	0.5	Max	W/O	Critical	A & G	Auto, Opt & Tool	Table space
E216_SegmntExtendCnt	# of segments that cannot extend (drill down)	Space	(*)	100	Min	W/O	Critical	A	Opt	N/A
E017_SegMaxExtentCnt	# of segments approaching max extent	Space	15m	0.5 (*)	Max	W/O	Major	A & G	Auto, Opt & Tool	Table space
E217_SegMaxExtentCnt	# of segments approaching max extent (drill down)	Space	(*)	80%	Max	W/O	Major	A	Opt	N/A
E018_SegExtRapidCnt	# of segments adding extents rapidly	Space	15m	0.5	Max	W/O	Major	A & G	Auto, Opt & Tool	Table space
E218_SegExtRapidCnt	# of segments adding extents rapidly (drill down)	Space	(*)	95%	Max	W/O	Major	A	Opt	N/A

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E019_SortDiskRate	Disk sort rate	Sort	1h	25/ hour	Max	W/ O	Minor	A & G	Opt	Sorts
E020_SortMemoryPct	% of memory sorts	Sort	5m	85% 95%	Min	90 % 98 %	Minor Warning	A & G	Opt	Sorts
E021_BufferBusyPct	% of buffer busy waits to logical reads	Cache	5m	3%	Max	W/ O	Minor	A & G	Opt	Waits
E022_TotBufCacHitPct	Total buffer cache hit %	Cache	5m	70% for 16m 90% for 16m	Min	75 % 95 %	Minor Warning	A & G	Opt	Shar edpoo l
E023_CurBufCacHitPct	Current buffer cache hit %	Cache	5m	60% for 16m 70% for 16m	Min	65 % 75 %	Minor Warning	A & G	Opt	Shar edpoo l
E024_EQWaitsReqPct	% of enqueue waits to enqueue requests	Cache	5m	1% for 11m	Max	W/ O	Minor	A & G	Opt	Waits
E026_DictCacheHitPct	% of cache get misses to gets in dictionary cache	Share d Pool	5m	15%	Max	W/ O	Minor	A & G	Opt	Shar edpoo l
E027_LibCachRelodPct	% of library cache misses to executions	Share d Pool	5m	2%	Max	W/ O	Minor	A & G	Opt	Shar edpoo l
E028_LocksUsedPct	% of DML locks used to total configured	Locks	5m	75%	Max	W/ O	Minor	A & G	Opt	Limit s
E029_SessWaitLckCnt	# of sessions waiting for release of a lock	Locks	5m	0.5	Max	W/ O	Minor	A & G	Auto, Opt & Tool	Waits

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E030_FulLgTblScnRate	Rate at which full table scans (long tables) occur	Tbls & Indexes	5m	1000	Max	W/O	Warning	A & G	Opt	Table index
E031_OpenCrsrPctCnt	# of users with % of open cursors to maximum configured	Errors	5m	0.5	Max	W/O	Minor	A & G	Auto, Opt & Tool	Limits
E032_RedoLgSpcReqCnt	# of waits for redo log space	Redo	5m	20	Max	W/O	Minor	A & G	Opt	Redo
E033_RedoAlocLtchPct	% of redo allocation latch misses	Redo	5m	1%	Max	W/O	Minor	A & G	Opt	Redo
E034_RedoCopyLtchPct	% of redo copy latch misses	Redo	5m	1%	Max	W/O	Minor	A & G	Opt	Redo
E035_BckgndCkptRate	Rate of background checkpoints completed	Check-points	5m	.5/min	Max	W/O	Minor	A & G	Opt	Checkpoints
E037_UserLogonCnt	Number of current user logons	Users	5m	N/A	N/A	N/A	N/A	G	Tool	Session
E038_LtchOvrLimitCnt	Number of latches with high contention ratio > threshold	Performance	5m	0.5	Max	W/O	Minor	A & G	Auto, Opt & Tool	Waits
E039_LibCacGetHitPct	% of gethits to gets in dictionary cache	Shared Pool	5m	95%	Min	W/O	Minor	A & G	Opt	Sharedpool

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E040_LibCacPinHitPct	% of pinhits to pins in dictionary cache	Streams	5m	95%	Min	W/O	Minor	A & G	Opt	Streams Pool Size
E041_FulShTblScnRate	Rate at which full tabel scans (Short tables occur)	Tbls & Indexes	5m	N/A	N/A	N/A	N/A	G	Tool	Table Index
E042_UnlyzTblIndxPct	% of never analyzed tables and indexes	Tbls & Indexes	1h	0.01%	Max	W/O	Minor	A & G	Auto, Opt & Tool	Table Index
E043_EQTimeoutReqPct	% of enqueue timeouts to enqueue requests	Performance	5m	1%	Max	W/O	Minor	A & G	Opt	Waits
E044_CommitRate	Commit rate	Transactions	5m	N/A	N/A	N/A	N/A	G		Calls
E045_ShrdPoolFreePct	% of free pool memory	Shared Pool	5m	1% 5%	Min	3% 8%	Major Warning	A & G	Auto, Opt & Tool	Sharedpool
E046_RowFetcbyIdxPct	% rows fetched by index	Tbls & Indexes	1h	50% 75%	Min	W/O	Major Warning	A & G	Opt	Table Index
E047_TablesCachedCnt	Number of tables cached	Tbls & Indexes	1h	N/A	N/A	N/A	N/A	G	Tool	Table Index
E048_ChandRowFtchPct	% of chained rows fetched	Tbls & Indexes	5m	10%	Max	W/O	Minor	A & G	Opt	Table Index
E049_UserCallRate	Rate of user calls	Calls	5m	N/A	N/A	N/A	N/A	G		Calls
E050_RcsvUsrCalRatio	Ratio of recursive calls to user calls	Calls	5m	15	Max	W/O	Minor	A & G	Opt	Calls

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E051_SortRowsAvgCnt	Average number of rows per sort	Sort	5m	N/A	N/A	N/A	N/A	G		Sorts
E052_SortTotalRate	Rate of total sorts on disk and in memory	Sort	1h	100/ min	Max	W/ O	Minor	A & G	Opt	Sorts
E054_RollbackRate	Rate at which rollbacks are being generated	Trans actions	5m	50/ min	Max	W/ O	Minor	A & G	Opt	Roll backs
E056_ArchvFreeSpcCnt	# of archive logs that fit in archive device	Archiv e/ Trace	1d	10	Min	W/ O	Major	A & G	Opt	Redo
E057_ArchiveFreqRate	Avg time in minutes between archive log writes	Archiv e/ Trace	1h	5 min	Min	W/ O	Minor	A & G	Auto, Opt & Tool	Redo
E058_ArchvFreeSpcPct	% of free space on archive device	Archiv e/ Trace	15m	10%	Min	W/ O	Major	A & G	Auto, Opt & Tool	Redo
E059_CursorCachePct	% of cursors in cache parameter	Share d Pool	5m	90%	Max	W/ O	Minor	A & G	Opt	Shar edpoo l
E060_RedoUnarchvdCnt	# of redo logs not yet archived	Archiv e/ Trace	5m	1.5	Max	W/ O	Minor	A	N/A	N/A
E061_AutoArchvStatus	Status of auto archiving	Archiv e/ Trace	1d	0.5	Max	W/ O	Warnin g	A	N/A	N/A
E062_BkgrDumpSpcePct	% of space used on background dump device	Archiv e/ Trace	15m	98%	Max	W/ O	Critical	A & G	Auto, Opt & Tool	Dum p

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E063_TraceFileAddCnt	# of trace files in bdump/ udump/cdump	Archive/ Trace	15m	0.5	Max	W/O	Warning	A	Auto, Opt & Tool	N/A
E064_UserDumpSpacPct	% of space used on user dump device	Archive/ Trace	15m	98%	Max	W/O	Critical	A & G	Auto, Opt & Tool	Dump
E065_CoreDumpSpacPct	% of space used on core dump device	Archive/ Trace	15m	98%	Max	W/O	Critical	A & G	Auto, Opt & Tool	Dump
E066_AlertLogSize	Size in MB of alert log	Archive/ Trace	1h	5mb	Max	W/O	Warning	A & G	Auto, Opt & Tool	Dump
E067_RBSegmntStatCnt	# of rollback segments not online	Rollbacks	5m	0.5	Max	W/O	Critical	A	Auto & Tool	N/A
E068_RBSgmntShrnkCnt	# of rollback segment shrinks	Rollbacks	1h	0.5	Max	W/O	Major	A & G	Auto, Opt & Tool	Rollbacks
E069_RBSegWaitPctCnt	% of rollback segment waits to gets	Rollbacks	5m	0.5	Max	W/O	Minor	A & G	Auto, Opt & Tool	Rollbacks
E070_PQServrsBusyPct	% of parallel query servers busy	PQO	5m	60%	Max	W/O	Minor	A & G	Auto, Opt & Tool	PQO
E071_PQSrvHighwtrPct	% of parallel query servers busy highwatermark	PQO	5m	75%	Max	W/O	Major	A & G	Auto, Opt & Tool	PQO

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E072_LogArchiveStartStatus	Status of log archive start	Archive/ Status	1d	0.5%	Max	W/O	Warning	A	N/A	N/A
E074_PQQueryRate	Rate of parallel queries initiated	PQO	5m	50/ min	Max	W/O	Warning	A & G	Opt	PQO
E075_RcrsvCursrRatio	Ratio of recursive calls to cumulative opened cursors	Calls	5m	10	Max	W/O	Minor	A & G	Opt	Calls
E076_PQRangeScanPct	% of full table scans via rowid range scans compared to total full table scans.	PQO	5m	10%	Max	W/O	Warning	A & G	Opt	PQO
E077_DualExssRowStat	SYS.DUAL status	Errors	15m	1.5	Max	W/O	Critical	A	Auto & Tool	N/A
E078_ObjctsInvaldCnt	# of invalid objects	Errors	15m	0.5	Max	W/O	Warning	A	Auto & Tool	N/A
E079_DisbldTrigrsCnt	# of disabled triggers	Errors	15m	0.5	Max	W/O	Warning	A	Auto & Tool	N/A
E080_DisbldCnstrtCnt	# of disabled constraints	Errors	15m	0.5	Max	W/O	Warning	A	Auto & Tool	N/A
E081_SnapshotErrCnt	# of snapshot errors	Errors	15m	0.5	Max	W/O	Warning	A	Auto & Tool	N/A
E082_SessHighWatrCnt	Maximum # of sessions since startup	Database Status	1h	500	Max	W/O	Warning	A & G	Opt	Session

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E083_DbwrCkptrate	Rate of DBWR checkpoints	Check points	5m	3/min	Max	W/O	Minor	A & G	Opt	Chec k-poi nts
E085_TransactionPct	% of current transactions to configured	Trans actions	5m	90%	Max	W/O	Minor	A & G	Opt	Limit s
E086_PhysReadsRate	# of physical reads per minute.	I/O Stats	5mi n	100	Max	W/O	Warnin g	A	N/A	N/A
E087_ProcessPct	% of current processes to configured	Users	5m	90%	Max	W/O	Minor	A & G	Opt	Limit s
E088_LogicReadsRate	# of logic reads per minute	I/O Stats	5m	1000	Max	W/O	Warnin g	A	N/A	N/A
E089_EnqueuePct	% of enqueues to configured	Perfor mance	5m	90%	Max	W/O	Minor	A & G	Opt	Limit s
E090_DsptchrBusyPct	% Busy (average) for all dispatchers	MTS	5m	50%	Max	W/O	Minor	A & G	Opt	MTS
E091_NumDsptchrClnts	# clients currently connected to all dispatchers	MTS	5m	200	Max	W/O	Warnin g	A & G	Auto, Opt & Tool	MTS
E092_ShrSrvrReqWtPct	% shared servers waiting for requests	MTS	5m	10%	Max	W/O	Minor	A & G	Auto, Opt & Tool	MTS

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E093_SharedServerPct	% of busy to max shared server processes	MTS	5m	80%	Max	W/O	Minor	A & G	Auto, Opt & Tool	MTS
E094_SesUGAMemCurPct	Current percentage of shared pool allocated to UGA	MTS	5m	10%	Max	W/O	Minor	A & G	Auto, Opt & Tool	MTS
E095_SesUGAMemMaxPct	Maximum percentage of shared pool allocated to UGA	MTS	5m	10%	Max	W/O	Minor	A & G	Auto, Opt & Tool	MTS
E096_ShrdSrvHWMPct	% of highwater to max shared server processes	MTS	5m	90%	Max	W/O	Minor	A & G	Auto & Tool	MTS
E097_DisbldTblLckNum	# tables with table locks disabled	Locks	5m	20	Max	W/O	Warning	A	Auto, Opt & Tool	N/A
E101_DiskReadsPerExecRatio (301, Drill-down)	# SQL statement with high disk reads per execution	SQL Query	15m	5	Max	W/O	Warning	A	Auto & Tool	N/A
E102_SQLFetchesMax (302, Drill-down)	SQL statements with high fetches	SQL Query	15m	150	Max	W/O	Warning	A	Auto & Tool	N/A

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E103_SQLScanRowsMax (303, Drill-down)	# SQL statements with long table scans	SQL Query	15m	5	Max	W/O	Warning	A	Auto & Tool	N/A
E104_SQLExecRateMax (304, Drill-down)	# SQL statements with high execution rate	SQL Query	15m	5	Max	W/O	Warning	A	Auto & Tool	N/A
E105_BufferGetsPerExec Ratio	# SQL statement with high buffer gets per execution	SQL Query	15m	5	Max	W/O	Warning	A	Auto & Tool	N/A
E106_SQLElapsedTimeMax (306, Dill-down)	SQL statement with high elapsed time per execution	SQL Query	15m	1	Max	W/O	Warning	A	Auto & Tool	N/A
E107_SQLCPUTimeMax (307, Drill-down)	# SQL statements with high CPU time per execution	SQL Query	15m	1	Max	W/O	Warning	A	Auto & Tool	N/A
E108_SQLFullTableScan Max (308, Drill-down)	# SQL statements performing full table scans	SQL Query	15m	100	Max	W/O	Warning	A	Auto & Tool	N/A
E109_SessionHardParses Max (309, Drill Down)	# sessions with high number of hard parses.	Sessions	15m	10	Max	W/O	Warning	A	Auto & Tool	N/A

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E309_SessionHardParses Max (Drill-down)	# sessions with high number of hard parses.	Sessions	15m	10	Max	W/O	Warning	A	Tool	N/A
E110_SessionFreeBuffer WaitMax (310, Drill-down)	# sessions with high Free Buffer Waits	Sessions	15m	1	Max	W/O	Warning	A	Auto & Tool	N/A
E310_SessionFreeBuffer WaitMax (Drill-down)	# sessions with high Free Buffer Waits	Sessions	15m	1	Max	W/O	Warning	A	Tool	N/A
E111_SessionLatchFree WaitMax (311, Drill-down)	# sessions with high Latch Free Waits	Sessions	15m	1	Max	W/O	Warning	A	Auto & Tool	N/A
E311_SessionLatchFree WaitMax (Drill-down)	# sessions with high Latch Free Waits	Sessions	15m	1	Max	W/O	Warning	A	Tool	N/A
E112_SessionSuspended Max (312, Drill-down)	Sessions with high suspended time	Sessions	15m	1	Max	W/O	Warning	A	Auto & Tool	N/A
E113_AdvRepBrokJobs	# of broken DBMS jobs	Replication	5m	1.5	Max	W/O	Critical	A	Auto & Tool	N/A

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E114_AdvRepFailJobs	# of failed DBMA jobs	Replication	5m	1.5 (Critical) 0.5 (Warning)	Max	W/O	-Critical -Warning	A	Auto & Tool	N/A
E115_AdvRepDefTrans	# of deferred transactions	Replication	5m	100 (Critical) 80 (Warning)	Max	W/O	-Critical -Warning	A	Auto & Tool	N/A
E116_AdvRepErrTrans	# of error transactions	Replication	5m	1.5 (Critical)	Max	W/O	Critical	A	Auto & Tool	N/A
E117_AdvRepFailReq	# of failed Admin requests	Replication	5m	0.5	Max	W/O	Critical	A	Auto & Tool	N/A
E118_AdvRepFaiViews	# of failed material views	Replication	5m	1.5 (Critical) 0.5 (Warning)	Max	W/O	-Critical -Warning	A	Auto & Tool	N/A
E119_HeavySQLNum	#of heavy SQL Statements	SQL Query	15m	10	Max	W/O	Warning	A	N/A	N/A

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E312_SessionSuspended Max (Drill-down)	Sessions with high suspended time	Sessio ns	15m	1	Max	W/ O	Warnin g	A	Tool	N/A
E121_GlobalCacheBlockC orruptMax	"# of blocks that encountered a corruption during interconnect.	RAC	1 hr	0.5	Max	W/ O	Warnin g	A	Auto & Tool	N/A
E122_GlobalCacheBlockl ostMax	"# of blocks that got lost during interconnect	RAC	1 hr	0.5	Max	W/ O	Warnin g	A	Auto & Tool	N/A
E123_GlobalCacheBlockR ecTime	Average time waited for consistent read per block	RAC	1 hr	15	Max	W/ O	Warnin g	A	N/A	N/A
E124_GlobalCacheBlockC onvTime	"Average convert time for a block mode conversion[in milliseconds	RAC	1 hr	15	Max	W/ O	Warnin g	A	N/A	N/A
E125_GlobalCacheBlockC onvTimedOutMax	Numbers of times lock converts in global cache timed out	RAC	1 hr	0.5	Max	W/ O	Warnin g	A	Auto & Tool	N/A
E126_DGLogGapDetectio n	Number of hours archived files have not been sent to standby databases.	Data Guard	1 hr	0.5	Max	W/ O	Warnin g	A	N/A	N/A

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E127_DGStdbyDestErr	Number of dataguard destinations that are getting errors or in an invalid state.	Data Guard	15m	0.5	Max	W/O	Critical	A	N/A	N/A
E128_DGLogsNotAppliedToStandbyDB	Number of hours the log files are not applied to standby databases	Data Guard	15m	0.5	Max	W/O	Major	A	N/A	N/A
E129_DGHrsSinceLastSQLApply	# number of hours last sql apply occured on the logical standby databases	Data Guard	1 hr	1	Max	W/O	Warning	A	N/A	N/A
E130_DGHrsSinceArchLogsRecieved	# number of hours since the latest time stamp in the redo received on the logical standby databases	Data Guard	1 hr	1	Max	W/O	Warning	A	N/A	N/A
E131_GlobalCacheCurBlockRecTime	Number of current blocks received over last collection interval	RAC	1 hr	0.5	Max	W/O	Warning	A	N/A	N/A

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E132_FileWithMaxTransferRate	Datafiles of cluster database with highest sum of rate of transfer for consistent read blocks as well as current blocks	RAC	1 hr	1000	Max	W/O	Warning	A	Auto & Tool	N/A
E133_DskGrpStatCnt	Number of non-mounted diskgroups	Database Status	15m	0.5	Max	W/O	Major	A	Auto & Tool	N/A
E136_FRADiscFullPct	Percentage of space used by Flash Recovery Area	FRA	15m	75, 90	Max	W/O	Warning, Major	A	Auto	N/A
E334_DskGrpFreePct	Diskgroups with low free space	Space Management	15m	10%	Min	W/O	Major	A	N/A	N/A
E140_StrmsPoolOptSize	Reports the estimated optimum size proposed for oracle streams pool.	Streams	15m	30% 50%	Max	W/O	Warning Major	A	Auto	N/A
E141_StrmsCaptProcErrs	Monitors the capture processes having errors in an oracle streams environment	Streams	15m	1 2	Max	W/O	Warning Major	A	Auto	N/A

Oracle Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G	Rpt Access	Graph
E142_StrmsPropErrs	Monitors propagation errors in an oracle streams environment	Streams	15m	1 2	Max	W/O	Warning Major	A	Auto	N/A
E143_StrmsApplyProcErrs	Monitors the apply processes having errors in an oracle streams environment	Streams	15m	1 2	Max	W/O	Warning Major	A	Auto	N/A
E144_StrmsApplyErrs	Monitors general apply errors in an oracle streams environment	Streams	15m	0.5	Max	W/O	Major	A	Auto	N/A
E145_StrmsCapToAppLatency	Monitors the number of messages having capture to apply latency higher than the specified threshold in an Oracle streams environment	Streams	15m	30	Max	W/O	Major	A	Auto	N/A

Metric specification descriptions for graphable metrics only are not provided because most of the fields are not applicable.

Metric Specification Description

	Metric Specification Description
Metric Number	The identification number assigned to the metric All Oracle metrics are in the range 0000 to 0999. 0001 to 0199 : Standard Metrics 0201 to 0399 : Drill Down Metrics 0700 to 0799 : UDM Metrics
Name	The name assigned to the metric All Oracle metrics start with Exxx, where xxx is the last 3 digits of the metric number.
Severity	The severity of the metric (Critical, Major, Minor, Warning, Normal)
Description	What the metric means
Conditions	For example, Restricted Mode, Shutdown Mode
Favorites	Is the metric included in the DB SPI Default metrics group? (Yes, No)
Alarming and/or Graphing Metric	Is the metric an alarming metric (A) or a graphing metric (G) or both (A & G)? (A, G, or A & G)
Collection Interval	How often is the metric collected and analyzed? (5 min, 15 min, 1 hour, 1 time daily, or * = not scheduled by default.)
Min/Max Threshold	Does the HPOM threshold represent a Minimum or Maximum value?
Threshold	What is the default HPOM threshold (if any)? (*=Threshold value is really 0, but HPOM alarms occur at <= or >= values. Since a 0 value would trigger an alarm, the threshold is set to 0.5)
Reset (value)	What is the Reset (value) for this metric? (Without reset, With reset, Continuous)
Metric Parameter	What is the Metric Parameter (if any) set in the DB SPI policy command line? (This overrides the HPOM Min/Max Threhold)
Metric Parameter Min/ Max	If a Metric Parameter exists, does it represent a Minimum or Maximum value?
Message Text	What messages may be displayed for each Condition?
Instruction Text	Problem-solving information (Probable causes, Potential impact, Suggested actions, and Reports)

	Metric Specification Description (cont'd)
Report Type	If a report is available, how is it generated? (Operator, Automatic, Tool Bank, N/A) Note: All the reports that are automatic actions or operator actions are also in the Tool Bank in HPOM. However, metrics that are for graphing only (no alarms) don't have an HPOM policy for Operator or Auto actions, so they are ONLY in the Tool Bank. N/A means that no report is planned.
Area	To what logical area (if any) does the metric belong? (Database Status, Space Management, Performance, Errors, Archive/Trace, Rollback Segments, PQO (Parallel Query Option), MTS (Multi-threaded Server), MISC)
Subarea	To what logical subarea (if any) does the metric belong? (Table Spaces, Segments, Sort, Buffer Cache, Shared Pool, Initialization limits, Redo, Checkpoints, Table and Indexes, General, Misc, Calls, Transactions)

Metric E001_DbInstanceStat

Metric Number	1
Name	DbInstanceStat
Severity	Critical
Description	Database status
Conditions	This metric has three conditions: RAC db down Cannot Connect Restricted Mode Shutdown Mode
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	RAC db down: 3.5 Cannot Connect: 2.5 Restricted mode: 1.5 Shutdown mode: 0.5
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	**RAC db down:** DBSPI-0001.4: RAC db down **Cannot Connect:** DBSPI-0001.3: DB-SPI cannot conect to database *DB_Name*, may be down; Oracle error [<$OPTION(msg)>]. **Restricted Mode:** DBSPI-0001.1: *DB_Name* is in restricted mode. **Shutdown Mode:** DBSPI-0001.2: *DB_Name* has a shutdown pending.

Metric Number	1 (cont'd)
Instruction Text	**Probable cause**: All instances in RAC environment are down. **Potential impact**: Failure **Suggested action**: Investigate and start instances. Use svrctl tool to get more details and start database. **Probable Cause:** Database down. A connection to the database using the information in the local.cfg (created by executing DBSPI Config) failed. This could be caused by: * Incorrect information in the DB-SPI configuration file (local.cfg). The information in this file is checked when configured but the administrator could have ignored the errors. * The user id or password that is used to connect to the database has changed. * The HOME location of the database has changed * The database configured is no longer on the system * The database configured is not in proper running order. The database could have been shutdown for maintenance or this could represent another more serious, unplanned connection problem **Suggested Action:** Use the database name in the message to determine which database is failing and why **Probable cause:** DBA has restricted access to the database or the database is in shutdown pending mode. **Potential impact:** Failure **Suggested action:** Investigate and restart database in non-restricted mode if appropriate.
Report Type	N/A
Area/Subarea	Database Status

Metric E002_ProcessStatus

Metric Number	2
Name	ProcessStatus
Severity	Critical
Description	Database process check(DBWn, RECO, ARCn and DB__)
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	0.5
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0002.1: The process *DB_Process* was not running for *DB_Name*.
Instruction Text	**Probable cause:** The critical Oracle process indicated either aborted or was killed. **Potential impact:** Failure **Suggested action:** Database will probably already be shutdown. If not, shut down and restart depending on circumstances.
Report Type	N/A
Area/Subarea	Database Status

This metric is applicable only to HP-UX, Linux, and Solaris nodes.

Metric E003_TblSpaceFreeCnt

Metric Number	3
Name	TblSpaceFreeCnt
Severity	Major
Description	Number of table spaces with free extents low
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	0.5(*)
Min/Max Threshold	Maximum
Threshold	0.5
Reset (value)	Without Reset
Metric Parameter	1
Message Text	Free extents value for tablespace tablespace_name too low (<=threshold) for database_name.
Instruction Type	**Probable cause:** One or more tablespaces have a free space percentage that is lower than the DB-SPI metric parameter. Tablespace needs additional datafile space allocated. **Potential impact:** Failure **Suggested actions:** Increase size of datafile allocated to tablespace (or set to autoextend) or add a new datafile. If raw disk is used, allocate additional devices. The automatic action report for this metric lists the total space currently allocated and the percentage of total free space to currently allocated space for all the tablespaces. The operator action for this metric generates a tablespace PerfView graph.
Report Type	Automatic Action and Tool Bank.

Metric E203_TableSpaceFree

Metric Number	203
Name	TableSpaceFree (drill-down)
Severity	Major
Description	Tablespaces with low free space;drill down
Collection Interval	15 min
Min/Max Threshold	Minimum
Threshold	1
Reset (value)	Without Reset
Metric Parameter	1
Message Text	DBSPI-0003.1: Free extents value for tablespace tablespace_name too low (<=threshold) for database_name.
Instruction Text	**Probable cause(s):** A tablespace has less than or equal to X number of extents (where X is the HPOM threshold) available before becoming full. Tablespace needs additional datafile space allocated. **Potential impact:** Failure **Suggested action(s):** Increase datafile size allocated to tablespace (or set to autoextend) or add a new datafile. If raw disk is used, allocate additional devices. The automatic action report for this metric lists information on extents used and free for all the tablespaces in the database.
Report Type	Automatic

Metric E004_UsersTmpDfltCnt

Metric Number	4
Name	UsersTmpDfltCnt
Severity	Minor
Description	# of users with default tablespace set to SYSTEM
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	1 hour
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-004.1:*Metric_Value* users have default/temp tablespace of 'SYSTEM' in *DB_Name*.
Instruction Text	**Probable cause:** Users other than 'SYS', 'SYSTEM', 'DBSMP', 'SCOTT', and any defined in a filter have a default or temporary tablespace set to 'SYSTEM'.Incorrect user setup or additional Oracle installed usernames present. **Potential impact:** Failure **Suggested action:** Alter temporary and/or default tablespace for users and relocate any resulting misplaced objects out of the SYSTEM tablespace (see DBSPI-E005). The automatic action report for this metric lists users with temporary or default tablespace set to SYSTEM tablespace.
Report Type	Automatic Action report shows all tablespaces and extents left before being full. Tool Bank.
Area/Subarea	Space Management/Misc

Metric E005_ObjctsForignCnt

Metric Number	5
Name	ObjctsForignCnt
Severity	Minor
Description	# of foreign objects in SYSTEM tablespace
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	1 hour
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0005.1: *Metric_Value* foreign objects found in SYSTEM tablespace for *DB_Name*.
Instruction Text	**Probable cause:** Objects in system tablespace are not owned by an Oracle installed username such as SYS, SYSTEM, DBSNMP, SCOTT, OUTLN, ORDSYS, MDSYS, AURORAORBUNAUTHENTICATED, ORDPLUGINS, ADAMS, JONES, CLARK, BLAKE, AURORAJISUTILITY$, OSE$HTTP$ADMIN, ORDPLUGINS, MTSSYS, or those defined in a filter. **Potential impact:** Fragmentation and/or lack of space in system tablespace. **Suggested action:** Schedule a time to export, drop and recreate the object in a different tablespace. Note: Oracle installer might create objects in system tablespace not owned by one of the above usernames.Check to make sure the owner of the objects is not an Oracle-installed username. The automatic action report for this metric lists objects found in the SYSTEM tablespace that are not owned by the Oracle usernames SYS, SYSTEM, DBSNMP, SCOTT, OUTLN, ORDSYS, MDSYS, AURORAORBUNAUTHENTICATED, ORDPLUGINS, ADAMS, JONES, CLARK, BLAKE, AURORAJISUTILITY$, OSE$HTTP$ADMIN, ORDPLUGINS, or MTSSYS.
Report Type	Automatic & Tool Bank
Area/Subarea	Space Management/Misc

Metric E006_TblSpFreePctCnt

Metric Number	6
Name	TblSpFreePctCnt
Severity	Major
Description	# of table spaces with low free space percentage
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	(*)
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without Reset
Metric Parameter	10%
Metric Parameter Min/ Max	Minimum
Message Text	DBSPI-0006.1: *Metric_Value* tablespaces with free space percentage too low in *DB_Name* (<=*Metric_Parameter%*), most serious is *Tablespace_Name* at *Most_Serious%*.
Instruction Text	**Probable cause:** One or more tablespaces have a free space percentage that is lower than the DB-SPI metric parameter. Tablespace needs additional datafile space allocated. **Potential impact:** Failure **Suggested actions:** Increase size of datafile allocated to tablespace (or set to autoextend) or add a new datafile. If raw disk is used, allocate additional devices. The automatic action report for this metric lists the total space currently allocated and the percentage of total free space to currently allocated space for all the tablespaces. The operator action for this metric generates a tablespace PerfView graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Space Management/Table Spaces

Metric E206_TblSpFreePctt

Metric Number	206
Name	TblSpFreePct
Severity	Major
Description	Tablespaces with low free space (drill down)
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	(*)
Min/Max Threshold	Minimum
Threshold	10%
Reset (value)	Without Reset
Metric Parameter	10%
Message Text	DBSPI-0206.1: Free space percentage *Metric_Value* too low for *Tablespace_Name* in database *DB_Name* (\\<=*Threshold_Value*).
Instruction Text	**Probable cause:** One or more tablespaces have a free space percentage that is lower than the DB-SPI metric parameter.Tablespace needs additional datafile space allocated. **Potential impact:** Failure **Suggested actions:** Increase size of datafile allocated to tablespace (or set to autoextend) or add a new datafile. If raw disk is used, allocate additional devices. The operator action report for this metric lists the total space currently allocated and the percentage of total free space to currently allocated space for all the tablespaces. The operator action for this metric generates a tablespace PerfView graph.
Report Type	Operator Initiated
Area/Subarea	Space Management/Table Spaces

Metric E007_TblSpcStatusCnt

Metric Number	7
Name	TblSpcStatusCnt
Severity	Critical
Description	Number of tablespaces not ONLINE
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0007.1: *Metric_Value* tablespaces not ONLINE in *DB_Name*.
Instruction Text	**Probable cause:** The DBA or an automatic database function has placed the tablespace in a status other than ONLINE. **Potential impact:** Failure **Suggested action:** Ensure tablespace in correct status (might need recovery). The automatic action report for this metric lists the status and default storage parameters for all the tablespaces. The operator action for the metric generates a tablespace graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Space Management/Table Spaces

Metric E008_TSBReadRatioCnt

Metric Number	8
Name	TSBReadRatioCnt
Severity	Minor
Description	Number of table spaces with high ratio of block to physical reads
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	1 hour
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without Reset
Metric Parameter	10
Metric Parameter Min/ Max	Maximum
Message Text	DBSPI-0008.1: *Metric_Value* tablespaces with blocks read to physical reads too high in *DB_Name* (>=*Metric_Parameter*), most serious is *Tablespace_Name* at *Most_Serious*.
Instruction Text	**Probable cause:** The ratio of blocks read to physical reads is higher than the DB-SPI metric parameter for one or more tablespaces. Full table scans on tables in tablespace. **Potential impact:** Performance **Suggested actions:** Load-balance I/O across devices, check for missing indexes and/or tune SQL statements that result in full table scans. The automatic action report for this metric lists important values for all tablespaces in the database. The operator action for the metric generates a tablespace graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Space Management/Table Spaces

Metric E009_TSTmpExntPctCnt

Metric Number	9
Name	TSTmpExntPctCnt
Severity	Minor
Description	# of tablespaces with high use of temp segments to total
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	1 hour
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	20%
Metric Parameter Min/ Max	Minimum
Message Text	DBSPI-0009.1: *Metric_Value* tablespaces with high use of TEMPORARY segments to tablespace total in *DBname* (<=*Metric_Parameter%)*, most serious is *Tablespace_Name* at *Most_Serious%*.

Metric Number	9 (cont'd)
Instruction Text	**Probable causes:** One or more tablespaces containing TEMPORARY segments that use a higher percentage of total tablespace then defined in the DB-SPI metric parameter. Disk sorts high, dedicated temporary tablespace allocation low. If the percentage is greater than zero in a tablespace not intended for use as a temporary tablespace, check DBSPI-0004 to ensure users have correct temporary and defaults tablespaces allocated. Note, SQL*Loader, SQL Alter Index Rebuild and certain other operations might create temporary segments in tablespaces not specified in the temporary tablespace specification in the system table dba_users. **Potential impact:** Performance **Suggested actions:** Increase dedicated temporary tablespace allocation, reduce disk sorts (see initialization parameter SORT_AREA_SIZE), issue SQL alter user if temporary segments being created in unintended tablespace, The automatic action report for this metric shows percentage of each tablespace devoted to TEMPORARY segments. The operator action for the metric generates a tablespace graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Space Management/Table Spaces

Metric E011_TblSpcFrgmntCnt

Metric Number	11
Name	TblSpcFrgmntCnt
Severity	Minor
Description	# of fragmented tablespaces
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	50
Metric Parameter Min/ Max	Maximum
Message Text	DBSPI-0011.1: *Metric_Value* fragmented tablespaces in *DB_Name*, most serious is *Tablespace_Name* at *Most_Serious* fragments.
Instruction Text	**Probable cause:** Fragmentation: One or more tablespaces have fragmented free space worse then the value specified in the metric parameter. **Potential impact:** Performance **Suggested action:** Issue SQL 'Alter tablespace xx coalesce', increase default PCTINCREASE in tablespace storage clause if zero (PCTINCREASE = 1 recommended) to cause SMON to automatically coalesce tablespaces. The automatic action report generates a list of all tablespaces and the number of fragments in each tablespace. The operator action for the metric generates a tablespace graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Space Management/Table Spaces

Metric E014_DataFSatusCnt

Metric Number	14
Name	DataFStatusCnt
Severity	Critical
Description	Number of datafiles not ONLINE
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0014.1: <$VALUE> datafiles not ONLINE in <$OPTION(dbname)>.
Instruction Text	**Probable cause(s):** The DBA or an automatic database function has placed the datafile in a status other than ONLINE. **Potential impact**: Failure **Suggested action(s):** Ensure datafile in correct status (might need recovery). The automatic action report for this metric lists the status for datafiles that are not ONLINE.The operator action for the metric generates a tablespace graph.
Report Type	Automatic, Operator Initiated and Tool Bank
Area/Subarea	Space

Metric E016_SegmntExtendCnt

Metric Number	16
Name	SegmntExtendCnt
Severity	Critical
Description	# of segments that cannot extend
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	1
Message Text	DBSPI-0016.1 *Metric_Value* segments will not be able to extend in database *DB_Name*.
Instruction Text	**Probable causes:** One or more contiguous segments have the potential of not being able to extend (grow). Value of NEXT, PCTINCREASE in storage clause needs adjustment, or tablespace needs additional space. **Potential impact:** Failure **Suggested actions:** Change object's storage clause to modify NEXT and possibly PCTINCREASE in storage clause. Resize datafile(s) or set to autoextend, or add new datafile(s). The automatic action report for this metric lists segments that cannot extend. The operator action for this metric generates a tablespace PerfView graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Space Management/Segments

Metric E216_SegmntExtendCnt

Metric Number	216
Name	SegmntExtendCnt
Severity	Critical
Description	Drill down data for # of segments that cannot extend
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	(*)
Min/Max Threshold	Minimum
Threshold	100
Reset (value)	Without reset
Metric Parameter	1
Message Text	DBSPI-0216.1: *Metric_Value* segments will not be able to extend in database *DB_Name*.
Instruction Text	**Probable causes:** The reported segment has the potential of not being able to extend (grow). Value of NEXT, PCTINCREASE in storage clause needs adjustment, or tablespace needs additional space. **Potential impact:** Failure **Suggested actions:** Change object's storage clause to modify NEXT and possibly PCTINCREASE in storage clause. Resize datafile(s) or set to autoextend, or add new datafile(s). The operator action for this metric generates a tablespace PerfView graph.
Report Type	Operator Initiated
Area/Subarea	Space Management/Segments

Metric E017_SegMaxExtentCnt

Metric Number	17
Name	SegMaxExtentCnt
Severity	Major
Description	# of segments approaching max extent
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	80%
Metric Parameter Min/Max	Maximum
Message Text	DBSPI-0017.1: *Metric_Value* segments are approaching maximum extents allowed in *DB_Name*.
Instruction Text	**Probable causes:** The size of one more segments is approaching the percentage specified in the DB-SPI metric parameter. **Potential impact:** Failure **Suggested actions:** Change NEXT, MAXEXTENTS and/or PCTINCREASE in storage clause (if possible) to avoid failure while awaiting table export and re-import. The automatic action report for this metric lists segments where the size of one more segments is approaching the percentage specified in the DB-SPI metric parameter. The operator action for this metric generates a tablespace graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Space Management/Segments

Metric E217_SegMaxExtentCnt

Metric Number	217
Name	SegMaxExtentCnt
Severity	Major
Description	Drill down data for # of segments approaching max extent
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	(*)
Min/Max Threshold	Maximum
Threshold	80%
Reset (value)	Without reset
Metric Parameter	80%
Metric Parameter Min/Max	Maximum
Message Text	DBSPI-0217.1: Extents to maximum extents percentage *Metric_Value* too high for *VALUE* segments in database *DB_Name (>=Threshold_Value).*
Instruction Text	**Probable causes:** The size of the reported segment is approaching the extent to max extents percentage configured in the condition threshold. NEXT, MAXEXTENTS and/or PCTINCREASE in storage clause need adjustment. **Potential impact:** Failure **Suggested actions:** Change NEXT, MAXEXTENTS and/or PCTINCREASE in storage clause (if possible) to avoid failure while awaiting table export and re-import. The operator action for this metric generates a tablespace PerfView graph.
Report Type	Operator Initiated
Area/Subarea	Space Management/Segments

Metric E018_SegExtRapidCnt

Metric Number	18
Name	SegExtRapidCnt
Severity	Major
Description	# of segments adding extents rapidly
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	95%
Metric Parameter Min/Max	Maximum
Message Text	DBSPI-0018.1: *Metric_Value* segments are growing rapidly in *DB_Name* (>=*Metric_Parameter%*/hour). Most serious is *Most_Serious%*/hour.
Instruction Text	**Probable causes:** One or more segments are growing at a rate that is higher than the DB-SPI metric parameter. This metric determines which segments will run out of available space within 1 hour if the growth rate during the current interval (default is 15 minutes) continues. NEXT and/or PCTINCREASE in storage clause is set incorrectly and/or heavy data load is taking place. **Potential impact:** Failure **Suggested actions:** Increase NEXT in storage clause. Set PCTINCREASE in storage clause to zero. The automatic action report for this metric lists segments that are growing rapidly. The operator action for this metric generates a tablespace PerfView graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Space Management/Segments

Metric E218_SegExtRapidCnt

Metric Number	218
Name	Number of segments adding extents rapidly; drill down (E218_SegExtRapidCnt)
Severity	Major
Description	Drill down data for # of segments adding extents rapidly
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	(*)
Min/Max Threshold	Maximum
Threshold	95
Reset (value)	Without reset
Metric Parameter	95%
Metric Parameter Min/ Max	Maximum
Message Text	DBSPI-0218.1: Segment <$OPTION(segment_name)> is growing rapidly in <$OPTION(dbname)>. Capacity will reach <$VALUE>% in one hour (>=<$THRESHOLD>).
Instruction Text	**Probable cause(s):** The reported segment is growing rapidly. At the current growth rate (based on samples performed in previous and current polling interval), the capacity of the segment will reach the reported value in one hour. Please note that this is a projection and capacity values greater than 100% can occur. NEXT and/or PCTINCREASE in storage clause is set incorrectly and/or heavy data load is taking place. **Potential impact:** Failure **Suggested action(s):** Increase NEXT in storage clause. Set PCTINCREASE in storage clause to zero. The operator action for this metric generates a metric 18 report showing rapidly growing segments (only applicable if metric 18 is run along with metric 218).
Report Type	Operator Initiated
Area/Subarea	Space Management/Segments

Metric E019_SortDiskRate

Metric Number	19
Name	SortDiskRate
Severity	Minor
Description	Disk sort rate
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	1 hour
Min/Max Threshold	Maximum
Threshold	25/hour
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0019.1: Disk sort rate (*Metric_Value*/hour) is too high for *DB_Name* (>=*Threshold_Value*/hour).
Instruction Text	**Probable cause**: There are too many sorts occurring on disk as opposed to in memory. Initialization parameter SORT_AREA_SIZE configured too low. **Potential impact:** Performance **Suggested action:** Increase initialization parameter SORT_AREA_SIZE if shared memory allows. The operator action for this metric generates a sort graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Sort

Metric E020_SortMemoryPct

Metric Number	20
Name	SortMemoryPct
Severity	Minor Warning
Description	% of memory sorts
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Minimum
Threshold	For Minor severity: 85% For Warning severity: 95%
Reset (value)	For Minor severity: With reset 90% For Warning severity: With reset 98%
Metric Parameter	N/A
Message Text	DBSPI-0020.1: Sorts in memory percentage (*Metric_Value*) too low for *DB_Name* (<=*Threshold_Value*).
Instruction Text	**Probable cause:** The total percentage of sorts in memory is too low. Too many sorts are occurring on disk. Initialization parameter SORT_AREA_SIZE low. **Potential impact**: Performance **Suggested action:** Increase initialization parameter SORT_AREA_SIZE if shared memory allows. The operator action for this metric generates a sort graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Sort

Metric E021_BufferBusyPct

Metric Number	21
Name	BufferBusyPct
Severity	Minor
Description	% of buffer busy waits to logical reads
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	3%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0021.1: Buffer busy percentage (*Metric_Value*) too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of buffer busy waits to logical reads is too high.Freelist or rollback segment contention. **Potential impact:** Performance **Suggested action:** If rollback segment metrics show no contention, cause is probably table freelist. Increase freelist on selected tables (see metric DBSPI-E024).
Report Type	Operator Initiated
Area/Subarea	Cache

Metric E022_TotBufCacHitPct

Metric Number	22
Name	TotBufCacHitPct
Severity	Minor Warning
Description	Total buffer cache hit %
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Minimum
Threshold	70% for 16m 90% for 16m
Reset (value)	75% 95%
Message Group	Ora_Perf
Message Text	DBSPI-0022.1: Total buffer cache hit percentage (*Metric_Value*) too low for *DB_Name* (<=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of buffer cache reads to physical reads since the database was started is lower than the HPOM set threshold. Initialization parameter DB_BLOCK_BUFFERS set too low. **Potential impact:** Performance **Suggested action:** Increase initialization parameter DB_BLOCK_BUFFERS if shared memory allows.
Report Type	Operator Initiated
Area/Subarea	Performance/Buffer cache

Metric E023_CurBufCacHitPct

Metric Number	23
Name	CurBufCacHitPct
Severity	Minor Warning
Description	Current buffer cache hit %
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Minimum
Threshold	60% for 16m 70% for 16m
Reset (value)	For Minor severity: With reset 65% For Warning severity: With reset 75%
Message Group	Ora_Perf
Message Text	DBSPI-0023.1: Current buffer cache hit percentage (*Metric_Value*) too low for *DB_Name* (<=*Threshold_Value*).
Instruction Text	**Probable cause:** The current percentage of buffer cache reads to physical reads is lower than the HPOM set threshold. Initialization parameter DB_BLOCK_BUFFERS set too low. **Potential impact:** Performance **Suggested action:** Increase initialization parameter DB_BLOCK_BUFFERS if shared memory allows.
Report Type	Operator Initiated
Area/Subarea	Performance/Buffer cache

Metric E024_EQWaitsReqPct

Metric Number	24
Name	EQWaitsReqPct
Severity	Minor
Description	% of enqueue waits to enqueue requests
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	1% for 11m
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0024.1: Enqueue waits to requests percentage (*Metric_Value*) too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of enqueue waits to enqueue requests is higher than the HPOM set threshold. Initialization parameter ENQUEUE_RESOURCES too low **Potential impact:** Performance **Suggested action:** Increase initialization parameter ENQUEUE_RESOURCES
Report Type	Operator Initiated
Area/Subarea	Cache

Metric E026_DictCacheHitPct

Metric Number	26
Name	DictCacheHitPct
Severity	Minor
Description	% of cache get misses to gets in dictionary cache
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	15%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0026.1: Dictionary cache hit percentage (*Metric_Value*) too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** It could be because of 1.The percentage of cache misses to gets in dictionary cache is higher than the HPOM set threshold. 2.Shared Pool size is too small. **Potential impact:** Performance **Suggested action:** If system shared memory and semaphore allocation allows then increase initialization parameter SHARED_POOL_SIZE. The operator action for this metric generates a sharedpool graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Shared Pool

Metric E027_LibCachRelodPct

Metric Number	27
Name	LibCachRelodPct
Severity	Minor
Description	% of library cache misses to executions
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	2%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0027.1: Library cache reload percentage (*Metric_Value*) too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** It could be because of: 1.The percentage of cache misses to gets in dictionary cache is higher than the HPOM set threshold. 2.Shared Pool size is too small. **Potential impact:** Performance **Suggested action:** If system shared memory and semaphore allocation allows then increase initialization parameter SHARED_POOL_SIZE. The operator action for this metric generates a sharedpool graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Shared Pool

Metric E028_LocksUsedPct

Metric Number	28
Name	LocksUsedPct
Severity	Minor
Description	% of DML locks used to total configured
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	75%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0028.1: DML locks used percentage (*Metric_Value*) too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of DML locks used to total configured is higher than the threshold. **Potential impact:** Performance **Suggested action:** Increase initialization parameter DML_LOCKS. The operator action for this metric generates a limit graph.
Report Type	Operator Initiated
Area/Subarea	Locks

Metric E029_SessWaitLckCnt

Metric Number	29
Name	SessWaitLckCnt
Severity	Minor
Description	Number of sessions waiting for release of a lock
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	0.5
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	N/A

Metric Number	29 (cont'd)
Instruction Text	**Probable Cause(s)**: The number of sessions waiting for release of a lock is higher than the HPOM set threshold. Contention between processes for the same database object. **Potential Impact**: Performance **Suggested Action(s)**: Look at the automatic action report which shows who holds the lock, the object and who is waiting. From this report, determine if the applications that is holding the lock should be rewritten or if this is a normal condition. The automatic action for this metric shows a report with the following information: WAIT_SID: Waiting Session ID LOCK: Type of lock WAIT_OS_USER: Waiting OS user WAIT_USERNAME: Waiting Oracle user WAIT_TIME: Waiting time HOLD_SID: Blocking Session ID HOLD_OS_USER: Blocking OS user HOLD_USERNAME: Blocking Oracle user LOCK_TYPE: Lock mode in which the blocking session holds the lock HOLD_TIME: Blocking time - the time since holding current lock mode was granted. KILL_STRING: Kill string - the string can be used in 'ALTER SYSTEM KILL SESSION <&Kill string>' to kill the blocking session. The operator action for this metric generates a waits graph.
Report Type	Operator Initiated, Automatic & Tool Bank
Area/Subarea	Locks

Metric E030_FulLgTblScnRate

Metric Number	30
Name	FulLgTblScnRate
Severity	Warning
Description	Rate at which full table scans (long tables) occur
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	1000
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	N/A
Instruction Text	**Probable Cause(s)**: The full table scan rate (long table scans per minute) is higher than the HPOM set threshold. Tables without proper indexing **Potential Impact**: Performance **Suggested Action(s):** Add appropriate indexes to tables. The operator action for this metric generates a tableindex graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Table and Indexes

Metric E031_OpenCrsrPctCnt

Metric Number	31
Name	OpenCrsrPctCnt
Severity	Minor
Description	Number of users with % of open cursors to maximum configured
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	95%
Metric Parameter Min/ Max	Maximum
Message Text	DBSPI-0031.1: *Metric_Value* users approaching maximum configured cursors for *DB_Name* (*Metric_Parameter%* of max). Most serious is *UserName* at *Most_Serious%*/ hour.
Instruction Text	**Probable cause:** The number of open cursors for one or more sessions is approaching the maximum number of cursors per session limit set by initialization parameter OPEN_CURSORS. Initialization parameter OPEN_CURSORS is set too low. **Potential impact:** Failure **Suggested action:** Increase initialization parameter OPEN_CURSORS. The automatic action report for this metric will show all users and the number of cursors used by each.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Errors/Initialization limits

Metric E032_RedoLgSpcReqCnt

Metric Number	32
Name	RedoLgSpcReqCnt
Severity	Minor
Description	# of waits for redo log space
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	20
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0032.1: Redo log buffer space request count (*Metric_Value*) too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The number of waits for redo log buffer space is higher than the HPOM set threshold. The initialization parameter LOG_BUFFER is too low, checkpointing or archiving is too slow. **Potential impact:** Performance **Suggested action:** Increase initialization parameter LOG_BUFFER (specified in bytes, multiple of database block size).
Report Type	Operator Initiated
Area/Subarea	Performance/Redo

Metric E033_RedoAlocLtchPct

Metric Number	33
Name	RedoAlocLtchPct
Severity	Minor
Description	% of redo allocation latch misses
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	1%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0033.1: Redo allocation latch percentage (*Metric_Value*) too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** It could be because of: 1.The percentage of misses to gets 2.Immediate misses to immediate gets on the redo allocation latch is higher than the threshold. **Potential impact:** Performance **Suggested actions:** To reduce contention for the redo allocation latch, you should minimize the time that any single process holds the latch. To reduce this time, reduce copying on the redo allocation latch. Decreasing the value of the initialization parameter LOG_SMALL_ENTRY_MAX_SIZE reduces the number and size of redo entries copied on the redo allocation latch. The operator action for this metric generates a redo graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Redo

Metric E034_RedoCopyLtchPct

Metric Number	34
Name	RedoCopyLtchPct
Severity	Minor
Description	% of redo copy latch misses
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	1%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0034.1: Redo copy latch percentage (*Metric_Value*) too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** It could be because of: 1. The percentage of misses to gets 2.Immediate misses to immediate gets on the redo allocation latch is higher than the threshold. **Potential impact:** Performance **Suggested actions:** On multiple-CPU computers, multiple redo copy latches allow multiple processes to copy entries to the redo log buffer concurrently. The default value of initialization parameter LOG_SIMULTANEOUS_COPIES is the number of CPUs available to your Oracle instance. Please note that Oracle sets this parameter value 2 times of the number of CPUs automatically. The operator action for this metric generates a redo graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Redo

Metric E035_BckgndCkptRate

Metric Number	35
Name	BckgndCkptRate
Severity	Minor
Description	Rate of background checkpoints completed
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	.5/min
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0035.1: Background checkpoint rate (*Metric_Value*/minute) too high for *DB_Name* (>=*Threshold_Value*/minute).
Instruction Text	**Probable cause:** The rate at which background checkpoints have completed is higher than the threshold. **Potential impact:** Performance **Suggested actions:** Set the value of the initialization parameter LOG_CHECKPOINT_INTERVAL larger than the size of the largest redo log file. Set the value of the initialization parameter LOG_CHECKPOINT_TIMEOUT to 0. This value eliminates time-based checkpoints. Set initialization parameter CHECKPOINT_PROCESS to true to cause a separate background process to be created to update data file headers instead of the lgwr process. The operator action for this metric generates a checkpoints graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Checkpoints

Metric E037_UserLogonCnt

Metric Number	37
Name	UserLogonCnt
Severity	Minor
Description	Number of current user logons
Favorites Group	No
Alarming and/or Graphing Metric	G
Collection Interval	5 min
Min/Max Threshold	N/A
Threshold	N/A
Reset (value)	N/A
Metric Parameter	N/A
Metric Parameter Min/ Max	N/A
Message Text	N/A
Instruction Text	N/A
Report Type	Tool Bank
Area/Subarea	Users

Metric E038_LtchOvrLimitCnt

Metric Number	38
Name	LtchOvrLimitCnt
Severity	Minor
Description	Number of latches with high contention ratio > threshold
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without Reset
Metric Parameter	2%
Metric Parameter Min/ Max	Maximum
Message Text	DBSPI-0038.1: *Metric_Value* latches with contention percentage too high for *DB_Name(>=Metric_Parameter%)*.
Instruction Text	**Probable cause:** Contention: There are latches with a contention percentage (misses to gets) that is higher than the set DB-SPI metric parameter. **Potential impact:** Performance **Suggested actions:** Review latch ratios that are exceeding threshold and isolate for further investigation. The automatic action report for this metric lists all latches, number of misses, number of gets and the ratio of misses to gets. The operator action for this metric generates a waits graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Performance/General

Metric E039_LibCacGetHitPct

Metric Number	39
Name	LibCacGetHitPct
Severity	Minor
Description	% of gethits to gets in dictionary cache
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Minimum
Threshold	95%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0039.1: Library cache gethits percentage (*Metric_Value*) too low for *DB_Name* (<=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of gethits to gets in dictionary cache is lower than set HPOM threshold. It may be common for this metric to alarm immediately after a database is started (or restarted) because the cache has not been filled yet. Shared Pool too small. **Potential impact:** Performance **Suggested action:** Increase initialization parameter SHARED_POOL_SIZE if system shared memory and semaphore allocation allows. The operator action for this metric generates a sharedpool graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Shared Pool

Metric E040_LibCacPinHitPct

Metric Number	40
Name	LibCacPinHitPct
Severity	Minor
Description	% of pinhits to pins in dictionary cache
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Minimum
Threshold	95%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0040.1: Library cache pinhits percentage (*Metric_Value*) too low for *DB_Name* (<=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of pinhits to gets in dictionary cache is lower than set HPOM threshold. Shared Pool too small. **Potential impact:** Performance **Suggested action:** Increase initialization parameter SHARED_POOL_SIZE if system shared memory and semaphore allocation allows. The operator action for this metric generates a sharedpool graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Shared Pool

Metric E042_UnlyzTblIndxPct

Metric Number	42
Name	UnlyzTblIndxPct
Severity	Minor
Description	% of never analyzed tables and indexes
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	Once daily
Min/Max Threshold	Maximum
Threshold	0.01
Reset (value)	Without reset

Metric Number	42 (cont'd)

Filters	To collect metric data on specific Oracle tables and/or index, you can add any of the filter clauses below to the Database SPI configuration file. However, remember to first *change the configuration file version to* ***#4***.
	
	Use metric condition 42.10 to filter metric monitoring to *include* specific Oracle tables only (whose names you enter in the filter clause).
	Metric filter clause syntax:
	`FILTER 42.10 "'TABLE_NAME_A','TABLE_NAME_B'"`
	
	Use metric condition 42.20 to filter metric monitoring to *exclude* specific Oracle tables (whose names you enter in the filter clause).
	Metric filter clause syntax:
	`FILTER 42.20 "'TABLE_NAME_C','TABLE_NAME_D'"`
	
	Use metric condition 42.30 to filter metric monitoring to *include* only specific Oracle indexes (whose names you enter in the filter clause).
	Metric filter clause syntax:
	`FILTER 42.30 "'INDEX_NAME_A','INDEX_NAME_B'"`
	
	Use metric condition 42.30 to filter metric monitoring to *include* only specific Oracle indexes (whose names you enter in the filter clause).
	Metric filter clause syntax:
	`FILTER 42.30 "'INDEX_NAME_A','INDEX_NAME_B'"`
	
	Use metric condition 42.40 to filter metric monitoring to *exclude* only specific Oracle indexes (whose names you enter in the filter clause).
	Metric filter clause syntax:
	`FILTER 42.40 "'INDEX_NAME_A','INDEX_NAME_B'"`

Metric Parameter	The number of days since the object was last analyzed
Message Text	DBSPI-0042.1: Unanalyzed tables & indexes percentage (*Metric_Value*) too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of tables and indexes that have never been analyzed is higher than the HPOM set threshold. For Oracle 8.x: The percentage of tables and indexes that have either never been analyzed or have not been recently analyzed is higher than the HPOM set threshold. Not recently analyzed is defined as not analyzed in the past N days where N is the number of days passed in the DB-SPI metric parameter for this metric. Change the DB-SPI metric parameter if the number of days is not appropriate (default is 20). No analyze executed or not executed often enough. **Potential impact:** Performance for cost based optimizer and for hints. **Suggested action:** Analyze tables and indexes. The automatic action report for this metric lists tables that have never been analyzed. The operator action for this metric generates a tableindex graph.

Metric Number	42 (cont'd)
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Performance/Table and Indexes

Metric E043_EQTimeoutReqPct

Metric Number	43
Name	EQTimeoutReqPct
Severity	Minor
Description	% of enqueue timeouts to enqueue requests
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	1%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0043.1: Enqueue timeouts to requests percentage (*Metric_Value*) too low for *DB_Name* (<=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of enqueue timeouts to enqueue requests is higher than threshold. **Potential impact:** Performance **Suggested action:** Investigate contention area using V$SYSSTAT, V$SESSTAT, V$SYSTEM_EVENT, V$LOCK, V$SESSION_WAIT, X$KSQST tables or increase initialization parameter ENQUEUE_RESOURCES. The operator action for this metric generates a waits graph.
Report Type	Operator Initiated
Area/Subarea	Performance/General

Metric E044_CommitRate

Metric Number	44
Name	Commit Rate
Severity	N/A
Description	Commit Rate
Favorites Group	Yes
Alarming and/or Graphing Metric	Graphing
Collection Interval	5 min
Min/Max Threshold	N/A
Threshold	N/A
Reset (value)	N/A
Metric Parameter	N/A
Message Text	N/A
Instruction Text	N/A
Report Type	N/A
Area/Subarea	Performance/Transactions

Metric E045_ShrdPoolFreePct

Metric Number	45
Name	ShrdPoolFreePct
Severity	Major Warning
Description	% of free pool memory
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Minimum
Threshold	For Major severity: 1% For Warning severity: 5%
Reset (value)	For Major severity: With reset 3% For Warning severity: With reset 8%
Metric Parameter	N/A
Message Text	DBSPI-0045.1: Shared pool memory free percentage (*Metric_Value*) too low for *DB_Name* (<=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of free memory to total shared pool memory is lower than the threshold. **Potential impact:** Performance **Suggested action:** Increase initialization parameter SHARED_POOL_SIZE if system shared memory and semaphore allocation allows. The automatic action report for this metric lists the detail usage of shared pool. The operator action for this metric generates a sharedpool graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Performance/Shared Pool

Metric E046_RowFetcByIdxPct

Metric Number	46
Name	RowFetcByIdxPct
Severity	Major Warning
Description	% rows fetched by index
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	1 hour
Min/Max Threshold	Minimum
Threshold	For Major severity: 50% For Warning severity: 75%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0046.1: Rows fetched by index percentage (*Metric_Value*) too low for *DB_Name* (<=*Threshold_Value*).
Instruction Text	**Probable causes:** The percentage of rows fetched by index to total rows fetched is lower than the threshold. **Potential impact:** Performance **Suggested actions:** Add indexes, analyze tables and indexes if cost-based optimizer or hints used, tune SQL if possible. The operator action for this metric generates a tableindex graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Table and Indexes

Metric E048_ChandRowFtchPct

Metric Number	48
Name	ChandRowFtchPct
Severity	Minor
Description	% of chained rows fetched
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	10%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0048.1: Chained rows fetched percentage (*Metric_Value*) too high for *DB_Name* (<=*Threshold_Value*).
Instruction Text	**Probable causes:** The percentage of chained rows fetched to total is higher than threshold. Table data block space usage parameters PCTFREE, PCTUSED need adjustment, table(s) need reorganization. **Potential impact:** Performance **Suggested actions:** Adjust data block space usage parameters PCTFREE, PCTFREE to affect future storage. To remedy current row chaining, reorganize tables with higher percentages of chained rows. The operator action for this metric generates a tableindex graph.
Report Type	Operator Initiated
Area/Subarea	PerformanceTable and Indexes

Metric E050_RcsvUsrCalRatio

Metric Number	50
Name	RcsvUsrCalRatio
Severity	Minor
Description	Ratio of recursive calls to user calls
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	15
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0050.1: Recursive calls to user calls ratio (*Metric_Value*) too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable causes:** The ratio of recursive calls to user calls is higher than the HPOM set threshold. Triggers, PL/SQL executions, dynamic space extension. **Potential impact:** Performance **Suggested action:** Review space management for tables, indexes and rollback segments.
Report Type	Operator Initiated
Area/Subarea	Performance/Calls

Metric E052_SortTotalRate

Metric Number	52
Name	SortTotalRate
Severity	Minor
Description	Rate of total sorts on disk and in memory
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	1 hour
Min/Max Threshold	Maximum
Threshold	100/min
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0052.1: Total sort rate (*Metric_Value*/minute) too high for *DB_Name* (>=*Threshold_Value*/minute).
Instruction Text	**Probable cause:** The rate of total sorts (disk and memory) is higher than the HPOM set threshold. Heavy database query load. **Potential impact:** Performance **Suggested action:** Review initialization parameters SORT_AREA_SIZE, SORT_AREA_RETAINED_SIZE. The operator action for this metric generates a sorts graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Sort

Metric E054_RollbackRate

Metric Number	54
Name	RollbackRate
Severity	Minor
Description	Rate at which rollbacks are being generated
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	50/min
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0054.1: Rollbacks generation rate (*Metric_Value*/minute) too high for *DB_Name* (>=*Threshold_Value*/minute).
Instruction Text	**Probable cause:** The rate at which rollbacks are being generated is higher than the HPOM set threshold. Programmatic design issues. **Potential impact:** None **Suggested action:** Review applications to ensure rollback volume is normative. The operator action for this metric generates a rollbacks graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Transactions

Metric E056_ArchvFreeSpcCnt

Metric Number	56
Name	ArchvFreeSpcCnt
Severity	Major
Description	Number of archive logs that fit in archive device
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	Once daily
Min/Max Threshold	Minimum
Threshold	10
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0056.1: Archive logs that can fit in archive device (*Metric_Value*) is too low for *DB_Name* (<=*Threshold_Value*).
Instruction Text	**Probable cause:** The number of archive logs that can fit in the archive device is lower than the HPOM set threshold. File system full, either due to activity by other users or because archived redo logs are not being deleted after backup. **Potential impact:** Failure **Suggested actions:** Free up space on archival device, backup archived logs to tape or other device to avoid failure of archiving process and subsequent suspending of all database activity. The operator action for this metric generates a redo graph.
Report Type	Operator Initiated
Area/Subarea	Archive/Trace

Metric E057_ArchiveFreqRate

Metric Number	57
Name	ArchiveFreqRate
Severity	Minor
Description	Avg time in minutes between archive log writes
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	1 hour
Min/Max Threshold	Minimum
Threshold	5 min
Reset (value)	Without reset
Metric Parameter	Average time between archive writes for the past N days
Message Text	DBSPI-0057.1: Archive log writes frequency rate (*Metric_Value* minute(s)) is too high for *DB_Name* (<=*Threshold_Value* minute(s)).
Instruction Text	**Probable causes:** The average time in minutes between archive log writes is lower than the HPOM set threshold. Hot backups in process (normal); redo logs too small; unusual database activity. **Potential impact:** Performance **Suggested action:** Investigate size of redo logs for possible enlargement. The automatic action report for this metric lists N days of archive redo log statistics, where N is the metric parameter passed on the command line. The operator action for this metric generates a redo graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Archive/Trace

Metric E058_ArchvFreeSpcPct

Metric Number	58
Name	ArchvFreeSpcPct
Severity	Major
Description	% of free space on archive device
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	15 min
Min/Max Threshold	Minimum
Threshold	10%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0058.1: Archive free space percentage (*Metric_Value*) too low for *DB_Name* (<=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of free space to total available space on the archive device is lower than HPOM set threshold. File system getting full, either due to activity by other users or because archived redo logs are not being deleted after backup. This is used when database is in ARCHIVELOG mode. **Potential impact:** Failure **Suggested actions:** Free up space on archive device, backup archived logs to tape or other device to avoid failure of archiving process and subsequent suspense of all database activity. The automatic action report for this metric shows the disk space utilization on the drive that contains the redo logs. The operator action for this metric generates a redo graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Archive/Trace

Metric E059_CursorCachePct

Metric Number	59
Name	CursorCachePct
Severity	Minor
Description	% of cursors in cache parameter
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	90%
Reset (value)	Without Reset
Metric Parameter	N/A
Message Text	DBSPI-0059.1: The session cursor cache percentage (*Metric_Value*) too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of the maximum value of session cursor cache count for all current sessions to the initialization parameter SESSION_CACHED_CURSORS is higher than the HPOM set threshold. Initialization parameter SESSION_CACHED_CURSORS needs tuning. **Potential impact:** Performance **Suggested action:** Increase initialization parameter SESSION_CACHED_CURSORS if shared pool memory allocation allows. The operator action for this metric generates a sharedpool graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Shared Pool

Metric E060_RedoUnarchvdCnt

Metric Number	60
Name	RedoUnarchvdCnt
Severity	Minor
Description	# of redo logs not yet archived
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	1.5
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0060.1: Redo logs unarchived count (*Metric_Value*) is too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable causes:** The number of redo logs not yet archived is higher than the HPOM set threshold (usually 1). Archive process stalled or set to manual; archive file system full or archival too slow to keep pace with database activity. **Potential impact:** Failure **Suggested actions:** Check archive destination file system space. Check alert log for errors. Verify archiving is automatic.
Report Type	N/A
Area/Subarea	Archive/Trace

Metric E061_AutoArchvStatus

Metric Number	61
Name	AutoArchvStatus
Severity	Warning
Description	Status of auto archiving
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	Once daily
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0061.1: Archiving is enabled and automatic archiving is not on for *DB_Name*.
Instruction Text	**Probable cause:** Archiving is enabled but the initialization parameter LOG_ARCHIVE_START is set to false. **Potential impact:** Database activities suspended while waiting for operator log switch. **Suggested actions:** Unless archiving is deliberately set to manual for your installation set initialization parameter LOG_ARCHIVE_START to TRUE and restart database.
Report Type	N/A
Area/Subarea	Archive/Trace

This metric is not applicable to Oracle 10g or later.

Metric E062_BkgrDumpSpcePct

Metric Number	62
Name	BkgrDumpSpcePct
Severity	Critical
Description	% of space used on background_dump device
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	98%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0062.1: Background dump device used percentage (*Metric_Value*) too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of disk space full on the background dump device is higher than the threshold. **Potential impact:** Failure **Suggested actions:** Archive any existing and needed user trace files. Delete unwanted files in file system. See DBSPI-0063 instruction text for reducing size of trace files. The annotations for this message contains an automatic command report which shows the disk space utilization on the drive that contains the dump device. The operator action for this metric generates a dump graph.
Report Type	Automatic, Operator Initiated and Tool Bank
Area/Subarea	Archive/Trace

Metric E063_TraceFileAddCnt

Metric Number	63
Name	TraceFileAddCnt
Severity	Warning
Description	Number of trace files in bdump/udump/cdump
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0063.1: *Metric_Value* new trace files for *DB_Name*.

Metric Number	63 (cont'd)

Instruction Text	**Probable causes:** User or Oracle dump or trace file(s) created.
	Potential impact: Failure
	Suggested actions: Archive any existing and needed trace files to another file system or tape. Delete unwanted files in file system. Limit size of trace files with the initialization parameter MAX_DUMP_FILE_SIZE specified in Operating system blocks (normally 512 bytes). For example, if your logical file system block size is 512 bytes and you do not want to exceed 1 MB for the trace file size, you would set the MAX_DUMP_FILE_SIZE to 2,000. It is also possible that DB-SPI tracing was turned on and these trace files are the result of the DB-SPI collector/analyzer running every 5 minutes and generating a new logfile every 5 minutes. To determine if DB-SPI tracing has been turned on, look for the following line in the configuration file using
	DBSPI Config:
	`TRACE ALL`
	Remove this line if tracing is not desired. Besides creating Oracle.trc files, DB-SPI tracing adds information to the file /var/opt/OV/dbspi/log/trace. This file can get very large as well. Tracing should only be enabled when debugging a DB-SPI problem. It should not be enabled during normal processing.
	The auto action report found in the annotations for this metric lists all current trace and dump files.
	NOTE!
	The operator action deletes trace and dump files older than 7 days. The number of days can be modified by changing the following line, found in the automatic action field in the policy for 0063:
	`dbspi063 7 <$OPTION(b0063)> <$OPTION(u0063)> <$OPTION(c0063)>`
	Change the '7' after the program name to a different number of days to keep files.

Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Archive/Trace

Metric E064_UserDumpSpacPct

Metric Number	64
Name	UserDumpSpacPct
Severity	Critical
Description	% of space used on user dump device
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	98%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0064.1: User dump device used percentage *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of disk space full on the user dump device is higher than the threshold. **Potential impact:** Failure **Suggested actions:** Archive any existing and needed trace files to another file system or tape. Delete unwanted files in file system. See DBSPI-0063 instruction text for reducing size of trace files. The operator action for this metric generates a dump graph..
Report Type	Automatic, Operator Initiated and Tool Bank
Area/Subarea	Archive/Trace

Metric E065_CoreDumpSpacPct

Metric Number	65
Name	CoreDumpSpacPct
Severity	Critical
Description	% of space used on core dump device
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	98%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0065.1: Core dump device used percentage *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of disk space full on the core dump device is higher than the HPOM set threshold. File system full. **Potential impact:** Failure **Suggested actions:** Archive any existing and needed core dumps and directories to another file system or tape. Delete unwanted files in file system. The operator action for this metric generates a dump graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Archive/Trace

Metric E066_AlertLogSize

Metric Number	66
Name	AlertLogSize
Severity	Warning
Description	Size in MB of alert log
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	1 hour
Min/Max Threshold	Maximum
Threshold	5mb
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0066.1: Alert log size *Metric_Value* MB too big for *DB_Name* (>=*Threshold_Value* MB).
Instruction Text	**Probable cause:** The alert log file has grown unwieldy in size. Inattention **Potential impact:** Difficulty in reviewing log entries. **Suggested actions:** Rename alert file or move to a subdirectory. The automatic action report for this metric lists file information about the alert log and its file system and prints the last 250 lines of the alert log.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Archive/Trace

Metric E067_RBSegmntStatCnt

Metric Number	67
Name	RBSegmntStatCnt
Severity	Critical
Description	# of rollback segments not online
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0067.1: *Metric_Value* rollback segments not online for *DB_Name*.
Instruction Text	**Probable causes:** Rollback segments not specified in initialization file; DBA action (including deliberate placing of big rollback segment offline until long running transactions are scheduled). **Potential impact:** Performance **Suggested actions:** Place online if warranted, and possibly add rollback segment name to initialization file. The automatic action report for this metric shows detail statistics and status for all rollback segments.
Report Type	Automatic & Tool Bank
Area/Subarea	Rollback Segments

Metric E068_RBSgmntShrnkCnt

Metric Number	68
Name	RBSgmntShrnkCnt
Severity	Major
Description	# of rollback segment shrinks
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	1 hour
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0068.1: *Metric_Value* rollback segment shrinks occurred for *DB_Name*.
Instruction Text	**Probable cause:** One or more rollback segment shrinks has occurred. Optimal size too low. **Potential impact:** Performance **Suggested action:** Increase optimal size or assign long running transactions to an extra-large rollback segment. The automatic action report for this metric shows detail statistics and status for all rollback segments.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Rollback Segments

Metric E069_RBSegWaitPctCnt

Metric Number	69
Name	RBSegWaitPctCnt
Severity	Minor
Description	% of rollback segment waits to gets
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	0.5
Reset (value)	Without reset
Metric Parameter	5%
Metric Parameter Min/ Max	Maximum
Message Text	DBSPI-0069.1: *Metric_Value* rollback segment with wait percentage too high for *DB_Name* (>=*Metric_Parameter*%).
Instruction Text	**Probable causes:** There are rollback segments with a percentage of waits to gets that is higher than the metric parameter. **Potential impact:** Performance **Suggested actions:** Increase rollback segment size, or add rollback segments. The automatic action report for this metric shows waits, gets and percentage waits/gets for all rollback segments. The operator action for this metric generates a rollbacks graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Rollback Segments

Metric E070_PQServrsBusyPct

Metric Number	70
Name	PQServrsBusyPct
Severity	Minor
Description	% of parallel query servers busy
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	60
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0070.1: % of busy to maximum Parallel Query Servers *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of used Parallel Query Servers is higher than the HPOM set threshold. Initialization parameter PARALLEL_MAX_SERVERS set too low. **Potential impact:** Queries that are candidates for parallelization ('parallel hint' or PARALLEL declaration in schema object, plus a full table scan or multiple partition index range scan) are not parallelized or return an error (if initialization parameter PARALLEL_MIN_PERCENT is set and in absence of overriding hint - see Oracle Server Tuning guide). **Suggested action:** Increase value of initialization parameter PARALLEL_MAX_SERVERS.Be sure to remain within process limit defined for the Oracle database and for the server on which it executes. The automatic action report for this metric shows the overall server statistics (such as servers busy, idle, sessions, etc.) and information on the slave servers (such as status, sessions, CPU seconds). The operator action for this metric generates a PQO graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	PQO

Metric E071_PQSrvHighwtrPct

Metric Number	71
Name	PQSrvHighwtrPct
Severity	Major
Description	% of busy highwater to max parallel query servers.
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	75%
Reset (value)	Without reset
Message Text	DBSPI-0071.1: % of busy highwater to max parallel query servers. *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The Parallel Query Servers busy highwater mark as a percentage of maximum servers is higher than the HPOM set threshold. Initialization parameter PARALLEL_MAX_SERVERS set too low. **Potential impact:** Queries that are candidates for parallelization ('parallel hint' or PARALLEL declaration in schema object, plus a full table scan or multiple partition index range scan) are not parallelized or return an error (if initialization parameter PARALLEL_MIN_PERCENT is set and in absence of overriding hint - see Oracle Server Tuning guide). **Suggested action:** Increase value of initialization parameter PARALLEL_MAX_SERVERS. The automatic action report for this metric shows the overall server statistics (such as servers busy, idle, sessions, etc.) and information on the slave servers (such as status, sessions, CPU seconds). The operator action for this metric generates a PQO graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	PQO

Metric E072__LogArchiveStartStatus

Metric Number	72
Name	LogArchiveStartStatus
Severity	Warning
Description	Status of log archive start
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	1d
Min/Max Threshold	Maximum
Threshold	0.5
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0072.1: automatic archiving is on for <$OPTION(dbname)> and archiving is not enabled.
Instruction Text	**Probable cause(s):** Automatic archiving is on and archiving is not enabled. Archiving is not enabled, even though the initialization parameter LOG_ARCHIVE_START is set to true. **Potential impact:** Archiving of Redo Log file groups does not occur. **Suggested action(s):** Turn archiving on by executing: Alter Database <instance_name> ARCHIVELOG Note: The database must be mounted EXCLUSIVE and not open.
Report Type	N/A
Area/Subarea	Archives

Metric E074_PQQueryRate

Metric Number	74
Name	PQQueryRate
Severity	Warning
Description	Rate of parallel queries initiated
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	50/min
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0074.1: Rate of parallel queries initiated *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The rate of parallel queries initiated is higher than the HPOM set threshold. This metric shows the rate at which parallel queries are being initiated. It is informational only and has no meaningful absolute threshold, varying by installation and query mix. **Potential impact:** If lower than expected, could affect overall performance. **Suggested actions:** If lower than expected, review degree of parallelization expected for selected queries, review parallelization initialization parameters. The operator action for this metric generates a PQO graph.
Report Type	Operator Initiated
Area/Subarea	PQO

Metric E075_RcrsvCursrRatio

Metric Number	75
Name	RcrsvCursrRatio
Severity	Minor
Description	Ratio of recursive calls to cumulative opened cursors
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	10
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0075.1: Recursive calls ratio *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable causes:** The rate of recursive calls to cumulative opened cursors is higher than the HPOM set threshold. Triggers, PL/SQL executions, Dynamic space extension. **Potential impact:** Performance **Suggested action:** Review space management for tables, indexes and rollback segments. The operator action for this metric generates a call graph.
Report Type	Operator Initiated
Area/Subarea	Performance/Calls

Metric E076_PQRangeScanPct

Metric Number	76
Name	PQRangeScanPct
Severity	Warning
Description	% of full table scans via rowid range compared to total full table scans
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	10%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0076.1: % of range scans vs full table scans *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable causes:** The percentage of full table scans via rowid range scans compared to total full table scans is higher than the HPOM set threshold. Too few parallel servers available (see metrics 101, 105), too high value for PARALLEL_MIN_PERCEBT, few full table scan queries eligible for parallelization. (Parallel Query option uses rowid range scans including during parallel query on partioned tables). **Potential impact:** Performance **Suggested actions:** Review initialization parameters that affect parallel query. Review database objects (tables and indexes) via EXPLAIN PLAN for striping and/or partitioning, to increase capacity to parallelize. The operator action for this metric generates a PQO graph.
Report Type	Operator Initiated
Area/Subarea	PQO

Metric E077_DualExssRowStat

Metric Number	77
Name	DualExssRowStat
Severity	Critical
Description	SYS.DUAL status
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	1.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0077.1: The dual excess row status is invalid for *DB_Name*.
Instruction Text	**Probable cause:** Software upgrade or installation. **Potential impact:** Failure **Suggested actions:** Drop table and recreate with 1 row using "insert into sys.dual values ('X')"; The automatic action report for this metric shows the sys.dual table.
Report Type	Automatic & Tool Bank
Area/Subarea	Errors

Metric E078_ObjctsInvaldCnt

Metric Number	78
Name	ObjctsInvaldCnt
Severity	Warning
Description	# of invalid objects
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0078.1: *Metric_Value* invalid objects found in database *DB_Name*.
Instruction Text	**Probable cause:** Invalid PL/SQL packages or missing dependencies. **Potential impact:** Failure **Suggested actions:** Recompile or replace invalid objects. The automatic action report for this metric shows the invalid objects.
Report Type	Automatic & Tool Bank
Area/Subarea	Errors

Metric E079_DisbldTrigrsCnt

Metric Number	79
Name	DisbldTrigrsCnt
Severity	Warning
Description	# of disabled triggers
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0079.1: *Metric_Value* disabled triggers found in database *DB_Name*.
Instruction Text	**Probable cause:** Disabled by DBA action. **Potential impact:** Failure **Suggested action:** You can enable the triggers wherever it appropriate. The automatic action report for this metric shows the disabled triggers.
Report Type	Automatic & Tool Bank
Area/Subarea	Errors

Metric E080_DisbldCnstrtCnt

Metric Number	80
Name	DisbldCnstrtCnt
Severity	Warning
Description	# of disabled constraints
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0080.1: *Metric_Value* disabled constraints found in database *DB_Name*
Instruction Text	**Probable cause:** Disabled by DBA action. **Potential impact:** Failure **Suggested action:** Possibly re-enable constraint, depending on why it was originally disabled. The automatic action report for this metric shows the disabled constraints.
Report Type	Automatic & Tool Bank
Area/Subarea	Errors

Metric E081_SnapshotErrCnt

Metric Number	81
Name	SnapshotErrCnt
Severity	Warning
Description	# of snapshot errors
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	0.5 (*)
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0081.1: *Metric_Value* snapshot errors found in database *DB_Name*.
Instruction Text	**Probable causes:** Communication error, space management or other database error. **Potential impact:** Failure **Suggested action:** Investigate errors. The automatic action report for this metric shows the snapshot errors.
Report Type	Automatic & Tool Bank
Area/Subarea	Errors

Metric E082_SessHighwatrCnt

Metric Number	82
Name	SessHighwatrCnt
Severity	Warning
Description	Maximum number of sessions since startup
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	1 hour
Min/Max Threshold	Maximum
Threshold	500
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0082.1: Maximum number of sessions since startup *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The maximum number of sessions since startup (high water mark) is higher than the HPOM set threshold. High database usage. **Potential impact:** Performance and licensing considerations. **Suggested action:** Review license restrictions and initialization parameter settings. The operator action for this metric generates a session graph.
Report Type	Operator Initiated
Area/Subarea	Database Status

Metric E083_DbwrCkptRate

Metric Number	83
Name	DbwrCkptrate
Severity	Minor
Description	Rate of DBWR checkpoints
Favorites Group	Yes
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	3/min
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0083.1: DBWR checkpoints rate *Metric_Value*/minute is too high for *DB_Name* (>=*Threshold_Value*/minute).
Instruction Text	**Probable causes:** Too few db_block_buffers or intensive, episodic DML activity. **Potential impact:** Performance **Suggested actions:** Tune buffer cache. Possibly increase value of initialization parameter DB_BLOCK_BUFFERS.
Report Type	Operator Initiated
Area/Subarea	Performance/Checkpoints

Metric E085_TransactionPct

Metric Number	85
Name	TransactionPct
Severity	Minor
Description	% of current transactions to configured
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	90%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0085.1: Current transactions percentage *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable causes:** Increased load; change in database usage. **Potential impact:** Failure **Suggested action:** Increase initialization parameter TRANSACTIONS.
Report Type	Operator Initiated
Area/Subarea	Transactions

Metric E086_PhysReadsRate

Metric Number	86
Name	PhyReadsRate
Severity	Warning
Description	Number of physical reads per min
Favorites Group	No
Alarming and/or Graphing Metric	Alarming
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	100
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0086.1: The number of physical reads per minute (<$VALUE>) for <$OPTION(dbname)> is too high.
Instruction Text	Probable causes: The number of physical reads is too high. Potential impact: Performance Suggested action: N/A
Report Type	N/A
Area/Subarea	I/O Stats

Metric E087_ProcessPct

Metric Number	87
Name	ProcessPct
Severity	Minor
Description	% of current processes to configured
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	90%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0087.1: Current processes percentage *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable causes:** The percentage of current processes to configured processes is higher than the HPOM set threshold. Increased load, change in database usage. **Potential impact:** Failure **Suggested action:** Increase initialization parameter PROCESSES. The operator action for this metric generates a limit graph.
Report Type	Operator Initiated
Area/Subarea	Users

Metric E088_LogicReadsRate

Metric Number	88
Name	LogicReadsRate
Severity	Warning
Description	Number of logical reads per min
Favorites Group	No
Alarming and/or Graphing Metric	Alarming
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	1000
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0088.1: The number of logical reads per minute (<$VALUE>) for <$OPTION(dbname)> is too high.
Instruction Text	Probable causes: The number of logical reads is too high. Potential impact: Performance Suggested action: N/A
Report Type	N/A
Area/Subarea	I/O Stats

Metric E089_EnqueuePct

Metric Number	89
Name	EnqueuePct
Severity	Minor
Description	% of enqueues to configured
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	90%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0089.1: Enqueue resources used percentage *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of currently used resources to the initialization parameter ENQUEUE_RESOURCES is higher than the HPOM set threshold. The initialization parameter ENQUEUE_RESOURCES set too low. **Potential impact:** Performance **Suggested action:** Increase initialization parameter ENQUEUE_RESOURCES.
Report Type	Operator Initiated
Area/Subarea	Performance/Initialization limits

Note: This metric is not valid for Oracle 10g R2 and later versions.

Metric E090_DsptchrBusyPct

Metric Number	90
Name	DsptchrBusyPct
Severity	Minor
Description	Average % busy for all Dispatchers
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	50%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0090.1: Dispatcher busy percentage *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The percentage of dispatchers busy is higher than the HPOM set threshold. Initialization parameter MTS_DISPATCHERS set too low. **Potential impact:** Performance **Suggested actions:** Increase MTS_DISPATCHERS (may need to increase MTS_MAX_DISPATCHERS initialization parameter first). Can also increase while database is running by use of the ALTER SYSTEM SET MTS_DISPATCHERS command. The operator action for this metric generates an MTS graph.
Report Type	Operator Initiated
Area/Subarea	MTS

Metric E091_NumDsptchrClnts

Metric Number	91
Name	NumDsptchrClnts
Severity	Warning
Description	# of clients connected to all dispatchers
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	200
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0091.1: # of clients connected to dispatchers *Metric_Value* is too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable cause:** The number of clients connected to dispatchers is higher than the threshold. **Potential Impact:** Performance **Suggested Action:** If numbers of clients connected are above site specific parameters, increase numbers of dispatchers (see metric E090). The automatic action report for this metric lists network, status and ownership information on clients connected to dispatchers.The operator action for this metric generates an MTS PerfView graph.
Report Type	Automatic, Operator Initiated and Tool Bank
Area/Subarea	MTS

Metric E092_ShrSrvrReqWtPct

Metric Number	92
Name	ShrSrvrReqWtPct
Severity	Minor
Description	% of shared severs waiting for requests
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5min
Min/Max Threshold	Maximum
Threshold	10%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0092.1: % of shared severs waiting for requests *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable Cause:** The percentage of servers waiting for requests is higher than the HPOM set threshold. Not enough shared servers available (dynamically created by Oracle) **Potential Impact:** Performance **Suggested Action:** Increase value of initialization parameter MTS_MAX_SERVERS. The automatic action report for this metric lists information on the servers such as status, requests, etc. The operator action for this metric generates an MTS graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	MTS

Metric E093_SharedServerPct

Metric Number	93
Name	SharedServerPct
Severity	Minor
Description	% of busy to max shared server processes
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	80
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0093.1: % of busy to max shared server processes *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable Cause:** The number of shared server processes running as a percentage of max allowed is higher than the HPOM set threshold. Approaching maximum initialization limit for shared servers. Oracle (PMON) automatically adds shared servers from the MTS_SERVERS number of shared servers started at instance startup until the MTS_MAX_SERVERS value is reached. **Potential Impact:** Performance **Suggested Action:** Increase MTS_MAX_SERVERS. The automatic action report for this metric lists information on the servers such as status, requests, etc. The operator action for this metric generates an MTS PerfView graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	MTS

Note: This metric is not valid for Oracle 10g R2 and later versions.

Metric E094_SesUGAMemCurPct

Metric Number	94
Name	SesUGAMemCurPct
Severity	Minor
Description	Current percentage of shared pool allocated to UGA
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	10%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0094.1: % of UGA memory allocation *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable Cause:** The % of total UGA memory allocated for all current sessions is higher than the HPOM set threshold. This metric reports % of UGA memory in use compared to size of shared pool. Where UGA memory is located is dependent on how each user session is connected to Oracle. For sessions connected to dedicated server processes, this memory is part of the memory of the user process. For sessions connected to shared server processes, this memory is part of the shared pool. **Potential Impact:** Performance, if shared pool configured too low. **Suggested Action:** Run action report to determine total UGA size for the shared connections and increase size of shared pool accordingly, or otherwise tune shared pool. The automatic action report for this metric will list UGA information by session. The operator action for this metric generates an MTS PerfView graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	MTS

Metric E095_SesUGAMemMaxPct

Metric Number	95
Name	SesUGAMemMaxPct
Severity	Minor
Description	Maximum percentage of shared pool allocated to UGA
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	10%
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0095.1: % of UGA memory allocated *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable Cause:** The % of UGA memory bytes ever allocated for all current sessions is higher than the HPOM set threshold. This metric reports percentage of maximum UGA memory in use compared to size of shared pool. Where UGA memory is located is dependent on how each user session is connected to Oracle. For sessions connected to dedicated server processes, this memory is part of the memory of the user process. For sessions connected to shared server processes, this memory is part of the shared pool. **Potential Impact:** Performance, if shared pool configured too low. **Suggested Action:** Run action report to determine total UGA size for the shared connections and increase size of shared pool accordingly, or otherwise tune shared pool. The automatic action report for this metric will list UGA information by session. The operator action for this metric generates an MTS PerfView graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	MTS

Metric E096_ShrdSrvHWMPct

Metric Number	96
Name	ShrdSrvHWMPct
Severity	Minor
Description	% of highwater to max shared server processes
Favorites Group	No
Alarming and/or Graphing Metric	A & G
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	90
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0096.1: % of highwater to max shared servers *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable Cause:** The percentage obtained by comparing the number of shared servers ever used (the highwater mark) to the number of shared servers allowed is higher than the HPOM set threshold. Approaching maximum initialization limit for shared servers. Oracle (PMON) automatically adds shared servers from the MTS_SERVERS number of shared servers started at instance startup until the MTS_MAX_SERVERS value is reached. **Potential Impact:** Performance **Suggested Action:** Increase MTS_MAX_SERVERS. The automatic action report for this metric lists information on the servers such as status, requests, etc. The operator action for this metric generates an MTS PerfView graph.
Report Type	Automatic and Tool Bank
Area/Subarea	MTS

Metric E097_DisbldTblLckNum

Metric Number	97
Name	DisbldTblLckNum
Severity	Warning
Description	# of tables with table locks disabled
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	5 min
Min/Max Threshold	Maximum
Threshold	20
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0097.1: # of tables with locks disabled *Metric_Value* too high for *DB_Name* (>=*Threshold_Value*).
Instruction Text	**Probable Cause:** The number of tables with table locks disabled is higher than the threshold. **Potential Impact:** Performance **Suggested Action:** Review tables on which table locks are disabled. The automatic action report for this metric lists table details with table locks disabled. The operator command for this message generates an MTS graph.
Report Type	Automatic, Operator Initiated & Tool Bank
Area/Subarea	Locks

Metric E101_DiskReadsPerExecRatio & 301 (drill-down)

Deployment of Oracle SQL query monitoring metrics (policies) 100-107, 119, and 301-307 requires that you also deploy metric 100 (Policy: DBSPI-0100, metric name: E100_SQLDataGatherer), which collects the necessary data. Do not modify the collection interval as any change could negatively affect the successful execution of these metrics.

Metric Number	101
Name	DiskReadsPerExecRatio
Severity	Warning
Description	# of SQL statement with high disk reads per execution
Favorites Group	No (Add-Ons)
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	5.0 (Setting is low to initially see the metric working, then establish the desired value)
Reset (value)	Without reset
Metric Parameter	Metric parameter can be used to specify how many of the top N SQL statements will be processed. Default 10.
Message Text	DBSPI-0101.1: One or more SQL statements with disk reads per execution too high (>=<$THRESHOLD>). Worst offender has (<$VALUE>) disk reads per execution, owned by <$OPTION(owner)>, query with SQL ID = <$OPTION(sql_id)>.
Instruction Text	**Probable Cause:** One or more SQL statements have a high number of disk reads per execution.Inefficient SQL statement(s). **Potential Impact:** Poor I/O performance. **Suggested actions:** review the SQL statement(s).The automatic action for this message generates a report for top 10 SQL statements with high disk reads per execution.
Report Type	Automatic and Tool Bank
Area/Subarea	SQL Query Monitoring

Metric E102_SQLFetchesMax & 302 (drill-down)

Deployment of Oracle SQL query monitoring metrics (policies) 100-107, 119, and 301-307 requires that you also deploy metric 100 (policy: DBSPI-0100, metric name: E100_SQLDataGatherer), which collects the necessary data. Do not modify the collection interval as any change could negatively affect the successful execution of these metrics.

Metric Number	102 (roll-up) 302 (drill-down)
Name	SQLFetchesMax
Severity	Warning
Description	SQL statements with high fetches
Favorites Group	No (Add-On)
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	150.000000
Reset (value)	without reset
Metric Parameter	10
Message Text	DBSPI-0102.1: One or more SQL statements with fetches per execution too high (>=<$THRESHOLD>). Worst offender has <$VALUE> fetches per execution owned by <$OPTION(owner)>, query with SQL ID = <$OPTION(sql_id)>."
Instruction Text	**Probable Cause:** One or more SQL statements have a high number of fetches per execution. SQL statement with high number of fetch operations. **Potential Impact:** Performance **Suggested Action:** Modify SQL statement(s), if possible, to reduce number of fetch operations, or increase metric's threshold to avoid triggering an alarm. The automatic action report for this metric provides detailed information for SQL statements exceeding max allowed fetch threshold.
Report Type	Automatic and Tool Bank
Area/Subarea	SQL Query Monitoring

Metric E103_SQLScanRowsMax & 303 (drill-down)

Deployment of Oracle SQL query monitoring metrics (policies) 100-107, 119, and 301-307 requires that you also deploy metric 100 (policy: DBSPI-0100, metric name: E100_SQLDataGatherer), which collects the necessary data. Do not modify the collection interval as any change could negatively affect the successful execution of these metrics.

Metric Number	103 (roll-up) 303 (drill-down)
Name	SQLScanRowsMax
Severity	Warning
Description	SQL statements with long table scans.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	5.0 (Setting is low to see metric work; then you can establish the desired value.)
Reset (value)	without reset
Metric Parameter	Metric parameter can be used to specify how many of the top N SQL statements will be processed. Default 10.
Message Text	DBSPI-0103.1: One or more SQL statements with rows in a full table scan too high (>=<$THRESHOLD>). Worst offender has <$VALUE> rows in a full table scan owned by <$OPTION(owner)>, query with SQL ID = <$OPTION(sql_id)>.
Instruction Text	**Probable Cause:** One or more SQL statements perform a row-by-row scan of a table(s). Inefficient SQL statement(s). **Potential Impact:** Physical or logical I/O performance. **Suggested action:** Modify, if possible, SQL statements to reduce number of row-by-row scans. The automatic action report for this metric provides detailed information for SQL statements exceeding scanned rows threshold.
Report Type	Automatic and Tool Bank
Area/Subarea	SQL Query Monitoring

Metric E104_SQLExecRateMax & 304 (drill-down)

Deployment of Oracle SQL query monitoring metrics (policies) 100-107, 119, and 301-307 requires that you also deploy metric 100 (policy: DBSPI-0100, metric name: E100_SQLDataGatherer), which collects the necessary data. Do not modify the collection interval as any change could negatively affect the successful execution of these metrics.

Metric Number	104 (roll-up) 304 (drill-down)
Name	SQLExecRateMax
Severity	Warning
Description	# SQL statements with high execution rate
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	5.0 (Setting is low to see metric work; then you can establish the desire value.)
Reset (value)	without reset
Metric Parameter	Metric parameter can be used to specify how many of the top N SQL statements will be processed. Default 10.
Message Text	DBSPI-0104.1: One or more SQL statements with executions per minute too high (>=<$THRESHOLD>). Worst offender has <$VALUE> executions per minute owned by <$OPTION(owner)>, query with SQL ID = <$OPTION(sql_id)>.
Instruction Text	**Probable Cause:** One or more SQL statements have a high execution rate. SQL statement invoked too frequently. **Potential Impact:** Performance **Suggested actions:** If possible, reduce the number of times sql statement is invoked. Alternately, increase metric's threshold to avoid triggering an alarm. The automatic action report for this metric provides detailed information for SQL statements exceeding max allowed execution rate threshold.
Report Type	Automatic and Tool Bank
Area/Subarea	SQL Query Monitoring

Metric E105_BufferGetsPerExecRatio & 305 (drill-down)

Deployment of Oracle SQL query monitoring metrics (policies) 100-107, 119, and 301-307 requires that you also deploy metric 100 (policy: DBSPI-0100, metric name: E100_SQLDataGatherer), which collects the necessary data. Do not modify the collection interval as any change could negatively affect the successful execution of these metrics.

Metric Number	105 (roll-up) rolls up to worst offender 305 (drill-down)
Name	BufferGetsPerExecRatio
Severity	Warning
Description	# of SQL statement with high buffer gets per execution
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	5.0
Reset (value)	without reset
Metric Parameter	Metric parameter can be used to specify how many of the top N SQL statement will be processed. Default is 10.
Message Text	DBSPI-0105.1: One or more SQL statements with buffer gets per execution too high (>=<$THRESHOLD>). Worst offender has <$VALUE> buffer gets per execution owned by <$OPTION(owner)>, query with SQL ID = <$OPTION(sql_id)>.
Instruction Text	**Probable Cause:** One or more SQL statements have a high number of buffer gets per execution. Inefficient SQL statement(s). **Potential Impact:** Poor logical I/O performance. **Suggested actions:** Review the SQL statement or increase metric's threshold to avoid triggering an alarm.The automatic action for this message generates a report for top 10 SQL statements with high buffer gets per execution.
Report Type	Automatic and Tool Bank
Area/Subarea	SQL Query Monitoring

Metric E106_SQLElapsedTimeMax & 306 (drill-down)

Deployment of Oracle SQL query monitoring metrics (policies) 100-107, 119, and 301-307 requires that you also deploy metric 100 (policy: DBSPI-0100, metric name: E100_SQLDataGatherer), which collects the necessary data. Do not modify the collection interval as any change could negatively affect the successful execution of these metrics.

Metric Number	106 (roll-up) 306 (drill-down)
Name	SQLElapsedTimeMax
Severity	Warning
Description	SQL statement with high elapsed time per execution. These metrics calculate the elapsed time per execution for top N SQL statements during the period between last and current run of the collector. The roll-up metric reports the worst offender and the drill-down metric reports the top N SQL statements.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	1.0
Reset (value)	Without reset
Metric Parameter	Metric parameter can be used to specify how many of the top N SQL statement will be processed. Default is 10.
Message Text	DBSPI-0106.1: One or more SQL statements with elapsed time per execution too high (>=<$THRESHOLD>). Worst offender has <$VALUE> seconds elapsed time per execution owned by <$OPTION(owner)>, query with SQL ID = <$OPTION(sql_id)>.
Instruction Text	**Probable Cause:** One or more SQL statements have a high elapsed time per execution.Inefficient SQL statement(s). **Potential Impact:** Poor logical I/O performance. **Suggested actions:** Review the SQL statement or increase metric's threshold to avoid triggering an alarm.The automatic action for this message generates a report for top 10 SQL statements with high elapsed time per execution.
Report Type	Automatic and Tool Bank
Area/Subarea	SQL Query Monitoring

Metric E107_SQLCPUTimeMax & 307 (drill-down)

Deployment of Oracle SQL query monitoring metrics (policies) 100-107, 119, and 301-307 requires that you also deploy metric 100 (policy: DBSPI-0100, metric name: E100_SQLDataGatherer), which collects the necessary data. Please do not modify the collection interval as any change could negatively impact the successful execution of these metrics.

Metric Number	107 (roll-up) 307 (drill-down)
Name	SQL CPU Time Max
Severity	Warning
Description	SQL statements with high CPU time per execution during the period between last and current run of the collector schedule. The roll-up metric reports the worst offender and the drill-down metric reports the top N SQL statements.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	1.0
Reset (value)	Without reset
Metric Parameter	Metric parameter can be used to specify how many of the top N SQL statement will be processed. Default is 10.
Message Text	DBSPI-0107.1: One or more SQL statements with CPU time per execution too high (>=<$THRESHOLD>). Worst offend er has <$VALUE> seconds CPU time per execution owned by <$OPTION(owner)>, query with SQL ID = <$OPTION(sql_id)>.
Instruction Text	**Probable Cause:** One or more SQL statements have a high CPU time per execution.Inefficient SQL statement(s). **Potential Impact:** Poor logical I/O performance. **Suggested actions:** Review the SQL statement or increase metric's threshold to avoid triggering an alarm.
Report Type	Automatic and Tool Bank
Area/Subarea	SQL Query Monitoring

Metric E108_SQLFullTableScanMax & 308 (drill-down)

Metric Number	108
Name	SQLFullTableScanMax
Severity	Warning
Description	Identify the top N SQL statements performing full table scans.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	100.0
Reset (value)	without reset
Metric Parameter	Metric parameter can be used to specify how many of the top N SQL statement will be processed. Default is 10.
Message Text	DBSPI-0108.1: Full table scan by <$OPTION(Owner)>: on <$OPTION(Name)> having no of rows <$VALUE> One or more SQL statements exceeded the threshold of <$THRESHOLD> rows.
Instruction Text	**Probable Cause:** One or more SQL statement has performed full table scan. Incorrect query. Joining condition missing. **Potential Impact:** Query running slower than expected. **Suggested actions:** Review the SQL statement.
Report Type	Automatic and Tool Bank
Area/Subarea	SQL Query Monitoring

Metric E109_SessionHardParsesMax & 309 (Drill-down)

Metric Number	109
Name	SessionHardParsesMax
Severity	Warning
Description	Identify the top N sessions with high number of hard parses. These metrics identify sessions for which percentage of hard parses to total no of parses is more than the specified threshold. The roll-up metric reports the worst offender and the drill-down metric reports the top N SQL statements.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	10.0
Reset (value)	Without reset
Metric Parameter	10
Message Text	DBSPI-0109.1: Session ID <$OPTION(SID)> of <$OPTION(Username)>: has <$VALUE> percentage of hard parses to total parses. One or more Session has exceeded the threshold of <$THRESHOLD> percentage.
Instruction Text	**Probable Cause:** High percentage of hard parses to total parses. Size of shared pool is not enough. **Potential Impact:** Query running slower than expected. **Suggested actions:** Increase the size of shared pool
Report Type	Automatic and Tool Bank
Area/Subarea	Session Monitoring

Metric E110_SessionFreeBufferWaitMax & 310 (Drill-down)

Metric Number	110
Name	SessionFreeBufferWaitMax
Severity	Warning
Description	Identify sessions with high Free Buffer Waits. These metrics will identify sessions for which average wait is more than the specified threshold. The roll-up metric reports the worst offender and the drill-down metric reports the top N SQL statements.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	1.0
Reset (value)	without reset
Metric Parameter	10
Message Text	DBSPI-0110.1: Average wait of 'free buffer wait' event for Session ID <$OPTION(SID)> of <$OPTION(Username)>: is <$VALUE> minutes. One or more Session has exceeded the threshold of <$THRESHOLD> minutes
Instruction Text	**Probable Cause:** Number of free session buffer waits threshold has been exceeded. Database buffer cache is too small. **Potential Impact:** Poor performance. **Suggested actions:** Increase the size of database buffer cache
Report Type	Automatic and Tool Bank
Area/Subarea	Session Monitoring

Metric E111_SessionLatchFreeWaitMax & 311 (Drill-down)

Metric Number	111
Name	SessionLatchFreeWaitMax
Severity	Warning
Description	Identify sessions with high Latch Free Waits. These metrics will identify sessions for which average wait is more than the specified threshold. The roll-up metric reports the worst offender and the drill-down metric reports the top N SQL statements.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	1.00
Reset (value)	Without reset
Metric Parameter	10
Message Text	DBSPI-0111.1: Average wait of 'latch free wait' event for Session ID <$OPTION(SID)> of <$OPTION(Username)>: is <$VALUE> minutes. One or more Session has exceeded the threshold of <$THRESHOLD> minutes.

Metric Number	111
Instruction Text	**Probable Cause(s):** (1) Lack of statement reuse/Statements not using bind variables (2) Cursors closed explicitly after each execution (3) Frequent logon/logoffs (4) Underlying object structure being modified (for example truncate) (5) Shared pool too small **Suggested actions:** Check and correct Sessions (in V$SESSTAT) with high: (1) parse time CPU (2) parse time elapsed (3) Ratio of parse count(hard) / execute count (4) Ratio of parse count(total) / execute count Check and correct Cursors (in V$SQLAREA/V$SQL) with: (1) High ratio of PARSE_CALLS /EXECUTIONS EXECUTIONS = 1 differing only in literals in the WHERE clause (that is, no bind variables used) (2) High RELOADS (3) High INVALIDATIONS (4) Large (> 1mb) SHARABLE_MEM
Report Type	Automatic and Tool Bank
Area/Subarea	Session Monitoring

Metric E112_SessionSuspendedMax & 312 (drill-down)

Metric Number	112
Name	SessionSuspendedMax
Severity	Warning
Description	Identify top N sessions for which the suspended time is more than the specified threshold
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	5 min
Min/Max Threshold	Max
Threshold	1.5
Reset (value)	Without reset
Metric Parameter	10
Message Text	DBSPI-0112.1: Session ID <$OPTION(SID)> of <$OPTION(Username)>: is suspended for last <$VALUE> minutes. One or more Session has exceeded the threshold of <$THRESHOLD> minutes.
Instruction Text	**Probable Cause:** Threshold for suspended sessions has been exceeded. Mostly space allocation failure. **Potential Impact:** Session will be suspended. **Suggested actions:** Correct the space problem before time out so that session can resume. If this error involves a temporary tablespace, other user sessions can result in the release of temporary segments in the tablespace, thus freeing space for the suspended session.
Report Type	Automatic and Tool Bank
Area/Subarea	Session monitoring

Metric E113_AdvRepBrokJobs

Metric Number	113
Name	AdvRepBrokJobs
Severity	Critical
Description	Number of broken DBMS jobs that is more than the specified threshold.
Favorites Group	No
Alarming and/or Graphing Metric	Alarming
Collection Interval	5 min
Min/Max Threshold	Max
Threshold	1.5
Reset (value)	Without reset
Message Text	ORASPI-0113.1: Advanced Replication: <$VALUE> broken DBMS jobs.
Instruction Text	**Probable Cause:** Number of broken DBMS jobs is more than threshold. A job can be broken if Oracle has failed to successfully execute the job after sixteen attempts or if the job has been marked as broken by the DBMS_JOB.BROKEN procedure. **Potential Impact:** The job will remain broken and will not be run until you either force it to run or mark it as not broken. This may cause failure in advanced replication activity. **Suggested actions:** When a database job fails an error will be written to the Oracle alert log with the error number of ORA-12012 and will include the job number which failed. Check the ALERT log and trace files for error information. Correct the problem that is preventing the job from running. Force immediate re-execution of the job by calling DBMS_JOB.RUN.
Report Type	N/A
Area/Subarea	Replication

Metric E114_AdvRepFailJobs

Metric Number	114
Name	AdvRepFailJobs
Severity	• Critical • Warning
Description	Number of failed DMBS jobs that is more than the specified threshold.
Favorites Group	No
Alarming and/or Graphing Metric	Alarming
Collection Interval	5 min
Min/Max Threshold	Max
Threshold	1.5 (Critical) 0.5 (Warning)
Reset (value)	Without reset
Message Text	ORASPI-0114.1: Advanced Replication: <$VALUE> failed DBMS jobs in <$OPTION(dbname)>..
Instruction Text	**Probable Cause:** The number of failed DBMS jobs is more than the threshold. DBMS jobs could fail for a variety of reasons but most common are missing or altered objects or insufficient privileges to execute. **Potential Impact:** Failure in replication activity. **Suggested actions:** Check the ALERT log and trace files for error information. Correct the problem that is preventing the job from running. The number of failed DBMS jobs exceeds the value specified by the threshold argument.
Report Type	N/A
Area/Subarea	Replication

Metric E115_AdvRepDefTrans

Metric Number	115
Name	AdvRepDefTrans
Severity	• Critical • Warning
Description	Number of deferred transactions that is more than the specified threshold.
Favorites Group	No
Alarming and/or Graphing Metric	Alarming
Collection Interval	5 min
Min/Max Threshold	Max
Threshold	100 (Critical) 80 (Warning)
Reset (value)	Without reset
Message Text	ORASPI-0115.1: Advanced Replication: <$VALUE> deferred transactions in <$OPTION(dbname)>.

Metric Number	115
Instruction Text	**Probable Cause:** The number of deferred transactions is more than the threshold. Delay in executing the transactions at the remote sight. Either the remote database link is not available or it's not active. The push and purge jobs are not running properly. The push and purge intervals are longer than the usual. **Potential Impact:** Delay in data replication at the remote site causing reduced data availability. **Suggested actions:** The necessary scheduled links automatically run a job at a regular interval to execute deferred transactions automatically at targeted destinations. If you do not want to wait for Oracle to execute a deferred transaction, use Replication Manager to manually push all pending deferred transactions for a particular destination. Check the push and purge jobs, if they are running and make correction in the intervals, if necessary. Manually purge all the successful deferred transactions using replication manager. This metric checks for the number of deferred transactions and generates an alert if the number exceeds the value specified by the threshold argument. If transactions are not being pushed to a given remote site, verify that the destination for the transaction was correctly specified. If you specify a destination database when calling DBMS_DEFER_SYS.SCHEDULE_EXECUTION using the DBLINK parameter or DBMS_DEFER_SYS.EXECUTE using the DESTINATION parameter, make sure the full database link is provided.
Report Type	N/A
Area/Subarea	Replication

Metric E116_AdvRepErrTrans

Metric Number	116
Name	AdvRepErrTrans
Severity	Critical
Description	Number of error transactions in SYS.DEFERROR view that is more than the specified threshold.
Favorites Group	No
Alarming and/or Graphing Metric	Alarming
Collection Interval	5 min
Min/Max Threshold	Max
Threshold	1.5 (Critical)
Reset (value)	Without reset
Message Text	ORASPI-0116.1: Advanced Replication: <$VALUE> error transactions in <$OPTION(dbname)>.

Metric Number	116
Instruction Text	**Probable Cause:** The number of transactions in SYS.DEFERROR view exceeds the value specified by the threshold argument. An error in applying a deferred transaction may be the result of a database problem, such as lack of available space in the table that is to be updated or may be the result of an unresolved conflict. If an error occurs, Oracle performs the following actions at the receiving master site: 1. Rolls back the transaction. 2. Logs the error transaction in the receiving site's replication catalog.. **Potential Impact:** Failure of data replication **Suggested actions:** Use the ID of the transaction to locate the queued calls associated with that transaction. These calls are stored in the SYS.DEFCALL view. Check the error property sheet of each error transaction in the replication manager to determine the cause of the error transaction. When you have resolved the problem that caused an error transaction, you can re-execute the error transaction. If the error transaction executes successfully, Oracle automatically removes the transaction from the local site's replication catalog. Or else, remove the error transaction manually. NOTE: Deferred transactions consist of a series of deferred remote procedure calls that must be applied in a given order to maintain transaction consistency..
Report Type	N/A
Area/Subarea	Replication

Metric E117_AdvRepFAILREQ

Metric Number	117
Name	AdvRepFailJReq
Severity	Critical
Description	Number of failed admin requests that is more than the specified threshold.
Favorites Group	No
Alarming and/or Graphing Metric	Alarming
Collection Interval	5 min
Min/Max Threshold	Max
Threshold	0.5
Reset (value)	Without reset
Message Text	ORASPI-0117.1: Advanced Replication: <$VALUE> failed admin requests in <$OPTION(dbname)>.

Metric Number	117
Instruction Text	**Probable Cause:** Number of failed admin requests is more that the threshold. A admin request could fail if there's a problem with local job running DBMS_REPCAT.DO_DEFERRED_REPCAT_ADMIN. The relevant databases are not running or the communication is not possible. The necessary private database links are not available or they are not active. The user designated in the CONNECT TO clause (generally the replication administrator) doesn't have the necessary privileges. **Potential Impact:** Failure of the task (e.g. replication of DDL changes at a master site, request for generation of replication support for an object, etc) to be performed by the specific admin request, which may eventually lead to the failure of the advanced replication activity. **Suggested actions:** See entries in ERRNUM and MESSAGE. Check the LOG_USER column in the DBA_JOBS view to ensure that the replication job is being run on behalf of the replication administrator. Check the USERID column of the DBA_REPCATLOG view to ensure that the replication administrator was the user that submitted the request. You must resolve the cause of the error and reissue the dbms_repcat procedure that generated the original admin request. Sometimes, even after you resolve the corresponding error situation, administration requests remain in the server's queue unless you manually purge them. The number of failed admin requests that were not successfully applied at the site indicated by 'master' is too high.
Report Type	N/A
Area/Subarea	Replication

Metric E118_AdvRepFailViews

Metric Number	118
Name	AdvRepFailViews
Severity	• Critical • Warning
Description	Number of failed material views that is more than the specified threshold.
Favorites Group	No
Alarming and/or Graphing Metric	Alarming
Collection Interval	5 min
Min/Max Threshold	Max
Threshold	1.5 (Critical) 0.5 (Warning)
Reset (value)	Without reset
Message Text	ORASPI-0118.1: Advanced Replication: <$VALUE> failed material views in <$OPTION(dbname)>.
Instruction Text	**Probable Cause:** The number of broken materialized views is more than the threshold. Common problems that can prevent the refresh of a materialized view are: lack of a job queue process at the materialized view database, a network or server failure, or a server shutdown. Also, if after sixteen attempts to refresh a refresh group Oracle continues to encounter errors, Oracle considers the group broken. **Potential Impact:** Failure to refresh the changes to the materialized view. **Suggested actions:** The errors causing Oracle to consider a snapshot refresh group broken are recorded in a trace file. Check the trace file for exact error information. After you correct the problems preventing a refresh group from refreshing successfully, you must refresh the group manually. Oracle then resets the broken flag so that automatic refreshes can happen again. The name of the snapshot trace file is of the form SNPn, where n is platform specific. See your platform-specific Oracle documentation for the name on your system..
Report Type	N/A
Area/Subarea	Replication

Metric E119_HeavySQLNum

Metric Number	119
Name	HeavySQLNums
Severity	Normal
Description	Monitors the number of heavy SQL statements.
Favorites Group	No
Alarming and/or Graphing Metric	Alarming
Collection Interval	5 min
Min/Max Threshold	Max
Threshold	10
Reset (value)	Without reset
Message Text	DBSPI-0119.1: <$VALUE> heavy SQL statements (rows_scanned/ executions\ \>=<$OPTION(cli_threshold)>) for <$OPTION(dbname).
Instruction Text	Probable Cause: The number of heavy SQL statements is too high. SQL statement is heavy if number of rows scanned per execution is more than specified threshold. Potential Impact: Performance. Suggested actions: N/A
Report Type	N/A
Area/Subarea	SQL Query Monitoring

Deployment of Oracle SQL query monitoring metrics (policies) 100-107, 119, and 301-307 requires that you also deploy metric 100 (policy: DBSPI-0100, metric name: E100_SQLDataGatherer), which collects the necessary data. Do not modify the collection interval as any change could negatively affect the successful execution of these metrics.

Before running the DBSPI-0119 metric, execute the Enable Reports application.

Metric E121_GlobalCacheBlockCorruptMax

Metric Number	121
Name	GlobalCacheBlockCorrupt Max
Severity	Warning
Description	"# of blocks that encountered a corruption during interconnect. This metric calculates the number of blocks that got corrupted during the interconnect (transfer) in the period between last and current run of the collector. A message is sent to the management server if the number of corrupted blocks exceeds the threshold as specified in the policy. The metric reports the worst offender, that is, the instance name with maximum number of corrupt blocks. The metric also reports the corrupted block count over the last collection interval for each instance, if the value is more than the threshold available in the annotation text.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	1 hour
Min/Max Threshold	Max
Threshold	0.5
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0121.1: <$VALUE> of blocks corrupted during interconnect in one instance. One or more instance has encountered block corruption during interconnect.
Instruction Text	**Probable cause(s):** One or more blocks have encountered a corruption during transfer. Network, or hardware problem. **Potential impact:** Data loss. **Suggested action(s):** Check for network or hardware problem.
Report Type	Automatic and Tool Bank
Area/Subarea	RAC Monitoring

Metric E122_GlobalCacheBlocklostMax

Metric Number	122
Name	GlobalCacheBlocklostMax
Severity	Warning
Description	"# of blocks that got lost during interconnect. This metric calculates the number of blocks that got lost during the interconnect (transfer) in the period between the last and current run of the collector. A message is sent to the management server if the number of lost blocks exceeds the threshold specified in the policy. The metric reports the worst offender, that is, the instance name with maximum number of lost blocks. The metric also reports the count of lost blocks over the last collection interval for each instance, if the value is more than the threshold available in the annotation text.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	1 hour
Min/Max Threshold	Max
Threshold	0.5
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0122.1: <$VALUE> of blocks that got lost during interconnect in one instance. One or more instance has encountered block corruption during interconnect.
Instruction Text	**Probable Cause:** One or more blocks are lost during transfer.Network, or hardware problem. **Potential Impact:** Performance. **Suggested actions:** Check the network for dropped packets, retires, errors, or send/receive buffer overflows.. Some nodes in your Real Application Clusters database may be very loaded and busy. Therefore, look for high CPU usage, long run queues, and memory shortages as indicated by excess paging and swapping
Report Type	Automatic and Tool Bank
Area/Subarea	RAC Monitoring

Metric E123_GlobalCacheBlockRecTime

Metric Number	123
Name	GlobalCacheBlockRecTime
Severity	Warning
Description	Monitors average time waited for consistent read per block in Oracle RAC environment. This metric calculates the average time taken to fulfill a consistent block request (in milliseconds) in the period between last and current run of the collector. A message is sent to the management server if the average time exceeds the threshold specified in the policy. *global cache cr block receive time* is the total amount of time foreground processes waited for a CR block to be sent through the interconnect. This divided by *global cache cr blocks received* is the time waited per block.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	1 hour
Min/Max Threshold	Max
Threshold	15
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0123.1: Average time waited for consistent read per block is <$VALUE>.
Instruction Text	**Probable Cause:** Time waited for consistent read per block is too high. High system load, using a public interconnect instead of a private network, network errors, or poor CPU utilization by the LMS processes. **Potential Impact:** Performance **Suggested Action:**
Report Type	N/A
Area/Subarea	RAC Monitoring

Metric E124_GlobalCacheBlockConvTime

Metric Number	124
Name	GlobalCacheBlockConvTime
Severity	Warning
Description	Average convert time for a block mode conversion[in milliseconds] This metric calculates the average convert time for a block mode conversion (in milliseconds) in the period between last and current run of the collector. A message is sent to the management server if the average convert time exceeds the threshold specified in the policy. *global cache convert time* is the accumulated time that all sessions require to perform global conversions on GCS resources. This divided by *global cache converts* is the average global cache convert time for a block.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	1 hour
Min/Max Threshold	Max
Threshold	15
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0124.1: Average convert time for a block mode conversion is <$VALUE>.
Instruction Text	**Probable Cause:** Average convert time for a block mode conversion is too high. High values indicate either overall system workload or performance problems or may be caused by excessive use of the Global Cache Service or the same block resources by multiple instances. **Potential Impact:** Performance **Suggested actions:** Check for system overall system workload. This problem can be caused by excessive use of the Global Cache Service or the same block resources by multiple instances.
Report Type	N/A
Area/Subarea	RAC Monitoring

Note: This metric is not valid for Oracle 10g and later versions.

Metric E125_GlobalCacheBlockConvTimedOutMax

Metric Number	125
Name	GlobalCacheBlockConvTimedOutMax
Severity	Warning
Description	Monitors the number of times lock converts in global cache are timed out in Oracle RAC environment. This metric calculates the number of times the lock converts in the global cache timed out in the period between the last and current run of the collector. A message is sent to the management server if the number of times the lock convert timed out exceeds the threshold specified in the policy. The metric reports the worst offender, that is, the instance name with maximum number of blocks mode conversions timed out. The metric also reports the number of times lock converts timed out over the last collection interval for each instance, if the value is more than the threshold available in the annotation text.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	1 hour
Min/Max Threshold	Max
Threshold	0.5
Reset (value)	Without reset
Message Text	DBSPI-0125.1: Some instance has timed out <$VALUE> times during block mode conversion. One or more instance has block mode conversion timed outs.
Instruction Text	**Probable Cause:** Global cache block mode conversion timed out is too high. High values indicate either overall system workload or performance problems or may be caused by excessive use of the Global Cache Service or the same block resources by multiple instances. **Potential Impact:** Performance **Suggested actions**: Check for hardware or network failures. This problem can be caused by excessive workloads on the system on the interconnect or by high contention for blocks between instances
Report Type	Automatic and Tool Bank
Area/Subarea	RAC Monitoring

Note: This metric is not valid for Oracle 10g and later versions.

Metric E126_DGLogGapDetection

Metric Number	126
Name	DGLogGapDetection
Severity	Warning
Description	Number of hours archived files have not been sent to the standby databases. This metric detects standby log gaps for archives created in the last 24 hours. The metric returns the number of hours since archived files created in the last 24 hours were sent to the standby databases. The metric executes only on the primary database of the data guard environment.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	1 hour
Min/Max Threshold	Max
Threshold	0.5
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0126.1: <$VALUE> number of hours archived files have not been sent to the standby databases since created.
Instruction Text	**Probable Cause:** Network or hardware problem. **Potential impact:** Availability of Primary Database. **Suggested actions:** Identify archived files on Primary Database and copy to Standby Databases.
Report Type	N/A
Area/Subarea	Data Guard Monitoring

Metric E127_DGStdbyDestErr

Metric Number	127
Name	DGStdbyDestErr
Severity	Critical
Description	Number of dataguard destinations that are getting errors or in an invalid state. The metric detects if any remote standby archive destination is getting errors and that all the destinations are enabled and “VALID”. The metric returns the number of dataguard destinations that are getting errors or dataguard destinations that are in an invalid state. The metric executes only on the primary database of the data guard environment.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	0.5
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0127.1: <$VALUE> of dataguard destinations that are getting errors or in an invalid state.
Instruction Text	**Probable Cause:** There are Dataguard destinations that are getting errors or in an invalid state. Network or hardware problem. **Potential impact:** Performance/Database Availability. **Suggested actions:** Check the ALERT log for error information. Correct the problem that is preventing transmitting of archives to Standby databases. Requires grant select on GV_$ARCHIVE_DEST to dbspi_account.
Report Type	N/A
Area/Subarea	Data Guard Monitoring

Metric E128_DGLogsNotAppliedToStandbyDB

Metric Number	128
Name	DGLogsNotAppliedToStandbyDB
Severity	Major
Description	# number of hours log files not applied to the standby databases (E128_DGLogsNotAppliedToStandbyDB)
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	0.5
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0128.1: <$VALUE> number of hours Log files not applied to the standby databases.
Instruction Text	**Probable Cause:** One or more Log files not applied. Network, or hardware problem. **Potential impact:** Performance/Database Availability. **Suggested actions:** Identify logfiles and copy and apply it to standby databases.
Report Type	N/A
Area/Subarea	Data Guard Monitoring

Metric E129_DGHrsSinceLastSQLApply

Metric Number	129
Name	DGHrsSinceLastSQLApply
Severity	Warning
Description	"# number of hours last sql apply occured on the logical standby databases
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	1 hour
Min/Max Threshold	Max
Threshold	1.0
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0129.1: <$VALUE> number of hours last sql occured on the Logical Standby databases.
Instruction Text	**Probable Cause:** Number of hours since the last sql applies occurred. Network or hardware problem. **Potential Impact:** Performance. **Suggested actions:** Identify archived files on Primary Database and copy to Standby Databases.
Report Type	N/A
Area/Subarea	Data Guard Monitoring

Metric E130_DGHrsSinceArchLogsRecieved

Metric Number	130
Name	DGHrsSinceArchLogsRecieved
Severity	Warning
Description	This metric returns the number of hours since the latest time stamp in the redo received on the Logical Standby databases. The metric executes only on the logical standby database of the data guard environment.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	1 hour
Min/Max Threshold	Max
Threshold	1
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0130.1: <$VALUE> number of hours since the latest time stamp in the redo received on the Logical Standby databases since created.
Instruction Text	**Probable Cause:** Number of hours since the last time stamp redo was received on Logical Standby Database Instance. Network or hardware problem. **Potential Impact:** Availability of Primary Database. **Suggested actions:** Identify archived files on Primary Database and copy to Standby Databases.
Report Type	N/A
Area/Subarea	Data Guard Monitoring

Metric E131_GlobalCacheCurBlockRecTime

Metric Number	131
Name	GlobalCacheCurBlockRecTime
Severity	Warning
Description	Number of current blocks that got received during interconnect
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	1 hour
Min/Max Threshold	Max
Threshold	0.5
Reset (value)	Without reset
Metric Parameter	N/A
Message Text	DBSPI-0131.1: Average time waited for current read per block is <$VALUE>.
Instruction Text	**Probable Cause:** Time waited for current read per block is too high. High system load, using a public interconnect instead of a private network, network errors, or poor CPU utilization by LMS processes. **Potential Impact:** Performance **Suggested Action:**
Report Type	N/A
Area/Subarea	RAC Monitoring

Metric E132_FileWithMaxTransferRate

Metric Number	132
Name	FileWithMaxTransferRate
Severity	Warning
Description	Datafiles of cluster database with highest sum of rate of transfer for consistent read blocks as well as current blocks.
Favorites Group	No
Alarming and/or Graphing Metric	A
Collection Interval	1 hour
Min/Max Threshold	Max
Threshold	1000
Reset (value)	Without reset
Metric Parameter	5
Message Text	DBSPI-0132.1: Instance <$dbname> file <$OPTION(FILE_NAME)> has transfer rate <$VALUE>.
Instruction Text	**Probable Cause:** Location of objects of the file causing excess transfer of blocks between instances. **Potential Impact:** Performance **Suggested actions:** Verify use of Oracle hash or range partitioning.
Report Type	Automatic and Tool Bank
Area/Subarea	RAC Monitoring

Metric E133_DskGrpStatCnt

Metric Number	133
Name	DskGrpStatCnt
Severity	Major
Description	The number of non-mounted diskgroups
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	0.5
Reset (value)	Without reset
Metric Parameter	N/A
Metric Parameter Min/ Max	N/A
Message Text	DBSPI-0133.1: <*$VALUE*> diskgroups not MOUNTED in ASM instance <*$OPTION(dbname)*>
Instruction Text	**Probable cause(s):** The reported ASM diskgroup has state that is different from MOUNTED. The diskgroup is not used by any database instances and the DBA unmount it. **Potential Impact:** **Suggested action(s):** Ensure ASM diskgroup in correct state.The automatic action report for this metric lists the name and the state for all diskgroups.
Report Type	Automatic and Tool Bank
Area/Subarea	Database status

Metric E136_FRADiscFullPct

Metric Number	136
Name	FRADiscFullPct
Severity	Warning Major
Description	Percentage of space used by Flash Recovery Area
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Max
Threshold	Warning: 75 Major: 90
Reset (value)	Without reset
Metric Parameter	N/A
Metric Parameter Min/ Max	N/A
Message Text	*ORASPI-0136.1: Used space percentage (<$VALUE>) too high for FRA in database <$OPTION(dbname)> (\ \>=<$THRESHOLD>%). Used space <$OPTION(space_used>Mb, space limit <$OPTION(space_limit)>Mb.* *ORASPI-0136.2: Used space percentage (<$VALUE>) high for FRA in database <$OPTION(dbname)> (\ \>=<$THRESHOLD>%). Used space <$OPTION(space_used>Mb, space limit <$OPTION(space_limit)>Mb.*
Instruction Text	**Probable cause(s):** Used space percentage too high for FRA in database. **Suggested action(s):** Perform following actions: 1. Increase DB_RECOVERY_FILE_DEST_SIZE and add disk space if necessary. 2. Use RMAN to backup the files to some teritary device. 3. Consider changing RMAN retention policy or archived log deletion policy. 4. Use RMAN to delete files from Recovery Area.
Report Type	Automatic
Area/Subarea	Flash Recovery Area/ Space Utilization

Note: This metric is valid for Oracle 10g R1 and later versions.

Metric E334_DskGrpFreePct

Metric Number	334
Name	DskGrpFreePct
Severity	Major
Description	Diskgroups with low free space
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Min
Threshold	10
Reset (value)	Without reset
Metric Parameter	N/A
Metric Parameter Min/ Max	N/A
Message Text	DBSPI-0334.1: Free space percentage (<$VALUE>) too low for <$OPTION(*diskgroup*)> in database <$OPTION(*dbname*)> (\ \<=<$THRESHOLD>%). Free space <$OPTION(*free*)>Mb, total space <$OPTION(*total*)>Mb
Instruction Text	**Probable cause(s):** The reported diskgroup currently has a free space percentage that is lower than the configured condition threshold. Diskgroup needs additional space. **Potential impact:** Failure **Suggested action(s):** Add new disk(s) in diskgroups.
Report Type	N/A
Area/Subarea	Space Management

Metric E140_StrmsPoolOptSize

Metric Number	140
Name	StrmsPoolOptSize
Severity	Warning Major
Description	Reports the estimated optimum size proposed for oracle streams pool.
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	Warning: 30 % Major: 50 %
Reset (value)	W/O
Metric Parameter	N/A
Message Text	Warning: ORASPI-0140.2: Optimum Streams pool size required for <$OPTION(dbname)> is about <$THRESHOLD>% higher than the current configuration. Current Streams Pool Size: <$OPTION(current_pool_size)>MB, Optimum Streams Pool Size: <$OPTION(estimated_pool_size)>MB. Major: ORASPI-0140.1: Optimum Streams pool size required for <$OPTION(dbname)> is about <$THRESHOLD>% higher than the current configuration. Current Streams Pool Size: <$OPTION(current_pool_size)>MB, Optimum Streams Pool Size: <$OPTION(estimated_pool_size)>MB.

Metric Number	140 (cont'd)
Instruction Text	**Probable cause:** A portion of memory in the System Global Area (SGA) is used as Oracle Streams Pool. The Oracle Streams pool is used to store the messages of buffered queue in memory, and is used by capture and apply processes. It is used to store LCRs captured by a capture process, and also to store messages and LCRs that are enqueued into a buffered queue by applications. The requirement for the Streams Pool Size varies based on the volume of messages and the amounts of memory required by various stream processes, such as capture and apply depending on the data volumes. Thus the optimum Streams Pool size required becomes larger based on estimated message spill count and the estimated memory requirements for various stream activities. **Potential impact:** 1 Messages spill over 2 Failure in capture or apply processes **Suggested action:** The Oracle Streams pool size can be configured in one of the following ways: Using Automatic Memory Management: When the MEMORY_TARGET or MEMORY_MAX_TARGET initialization parameter is set to a nonzero value, the Oracle Streams Pool Size is automatically managed. However, you can still set the following initialization parameters: • SGA_TARGET: When this is set to a nonzero value, the same value is used as a minimum for the system global area (SGA). • STREAMS_POOL_SIZE: When this is set to a nonzero value, the same value is used as a minimum for the Oracle Streams pool. Using Automatic Shared Memory Management: The Oracle Streams pool size is automatically managed when the initialization parameters: • MEMORY_TARGET and MEMORY_MAX_TARGET are both set to 0 (zero). • SGA_TARGET parameter is set to a nonzero value. However, if the initialization parameter, STREAMS_POOL_SIZE is also set to a nonzero value, then the value set is used as a minimum for the Oracle Streams pool. Manually Setting the Oracle Streams Pool Size: The Oracle Streams pool size can be manually configured by the value specified by the initialization parameter, STREAMS_POOL_SIZE, in bytes, when the following initialization parameters: • MEMORY_TARGET, MEMORY_MAX_TARGET, and SGA_TARGET are all set to 0 (zero). • STREAMS_POOL_SIZE is set to a nonzero value. Using the Default Setting: By default, the Oracle Streams pool size is set, when all the following parameters: • MEMORY_TARGET, MEMORY_MAX_TARGET, SGA_TARGET, and STREAMS_POOL_SIZE are set to 0 (zero).

Metric Number	140 (cont'd)
	Note : The error, ORA-00832 occurs, when the Oracle Streams pool size cannot be initialized. Then, first ensure that SGA has enough space for the Oracle Streams pool. If necessary, increase the SGA size by resetting the initialization parameter, SGA_MAX_SIZE. Secondly, set one or more of the initialization parameter, SGA_TARGET, MEMORY_TARGET, MEMORY_MAX_TARGET, and STREAMS_POOL_SIZE.
Report Type	Auto
Area/Subarea	Streams/Streams Pool Size

Metric E141_StrmsCaptProcErrs

Metric Number	141
Name	StrmsCaptProcErrs
Severity	Warning Major
Description	Monitors the capture processes having errors in an oracle streams environment
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	Warning: 1 (DISABLED) Major: 2 (ABORTED)
Reset (value)	W/O
Metric Parameter	N/A
Message Text	Warning: ORASPI-0141.2: There are <$OPTION(disabled_captures)> DISABLED and <$OPTION(aborted_captures)> ABORTED Streams Capture Processes in <$OPTION(dbname)> database. Major: ORASPI-0141.1: There are <$OPTION(disabled_captures)> DISABLED and <$OPTION(aborted_captures)> ABORTED Streams Capture Processes in <$OPTION(dbname)> database.

Metric Number	141 (cont'd)
Instruction Text	**Probable cause:** A Streams Capture Process might need to scan redo logs with a FIRST_CHANGE# value lower than start SCN, when it is started or restarted. If the required redo logs are removed before they are scanned by a capture process, it causes the capture process to abort. When a source database in a Streams environment uses the flash recovery area feature of Recovery Manager (RMAN), then there are chances that RMAN might have deleted the archived redo logs that are required by a capture process. When the disk space used by the recovery-related files nears the allotted disk quota of the flash recovery area, RMAN might delete the archived recovery-related files such as redo logs. If you have configured a real-time downstream capture process, the downstream capture process may have run into disabled or aborted state waiting for redo. The wait could have been caused by a problem with the network connection between the source database and the downstream database. There could also be a problem with the log file transfer method. Also, the disabled or aborted status of a capture process, if caused by database shutdown, is retained when the database is restarted. **Potential impact:** If a capture process fails to capture recent changes, then it might result in falling behind capturing the current changes to the database, which in turn will give rise to the latency in data movement to the downstream database. Failure in keeping the downstream databases current might result in the failure of database recovery, when the changes made to the database objects in a source database which are logged in the redo log does not guarantee recoverability in the event of user error or media failure. **Suggested action:** Act upon the errors reported by the Automatic Action of this message alarm, for each disabled or aborted capture process. Restart the disabled capture processes, after correcting the errors. If a capture process has failed with the error message, "ORA-01291: missing logfile", then try restoring any missing redo log file and restarting the capture process. You can determine the missing SCN range by querying the dynamic performance view, V$LOGMNR_LOGS, and add the relevant redo log files. Increase the disk quota for the flash recovery area, If you are using the flash recovery area feature of Recovery Manager (RMAN) on a source database in a Streams environment. However, it will not always prevent the problem. To overcome the problem permanently, configure the source database to store archived redo logs in a location other than the flash recovery area. Check your network connection and log file transfer method to ensure that they are working properly, if you have configured a real-time downstream capture process.
Report Type	Auto
Area/Subarea	Streams/Capture Processes

Metric E142_StrmsPropErrs

Metric Number	142
Name	StrmsPropErrs
Severity	Warning Major
Description	Monitors propagation errors in an oracle streams environment
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	Warning: 1 (DISABLED) Major: 2 (ABORTED)
Reset (value)	W/O
Metric Parameter	N/A
Message Text	Warning: ORASPI-0142.2: There are <$OPTION(disabled_propagations)> DISABLED and <$OPTION(aborted_propagations)> ABORTED Streams Propagations in <$OPTION(dbname)> database. Major: ORASPI-0142.1: There are <$OPTION(disabled_propagations)> DISABLED and <$OPTION(aborted_propagations)> ABORTED Streams Propagations in <$OPTION(dbname)> database.

Metric Number	142 (cont'd)
Instruction Text	**Probable cause:** If a propagation is not configured properly to propagate messages from the correct source queue to the correct destination queue. If the propagation is disabled. If there are not enough job queues processes to propagate messages. If security is not configured properly for users to be able to perform operations ANYDATA secure queues. If there is a problem in the database link to the destination database. **Potential impact:** Delayed data movement giving rise to latency in data replication. The messages remain in the source queue until they are propagated. Thus, a propagation failure could cause the source queue to grow large leading to memory/space problems in the source database. **Suggested action:** Diagnose and correct the errors as reported in the Automatic Action of this alarm message and restart the propagation jobs. Check if the propagation job is not configured with correct source and destination queues. If so, correct the problem. Enable the propagation using the START_PROPAGATION procedure in the DBMS_PROPAGATION_ADM package, if it's in DISABLED state. Check that the propagation schedule has been created and that a job queue process has been assigned. Check if the database link to the destination database has been set up properly. Make sure that the queue owner can use the database link. Make sure that at least two job queue processes are running. This could be done by setting the initialization parameter, JOB_QUEUE_PROCESSES 2 or higher in each database instance that runs propagations. Correct the security issues, if any, for the users to be able to perform enqueue/dequeue operations on secure queues such as ANYDATA. If the propagation job is enabled and everything else is fine, but is not propagating messages, then try stopping and restarting the propagation
Report Type	Auto
Area/Subarea	Streams/Propagations

Metric E143_StrmsApplyProcErrs

Metric Number	143
Name	StrmsApplyProcErrs
Severity	Warning Major
Description	Monitors the apply processes having errors in an oracle streams environment
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	Warning: 1 (DISABLED) Major: 2 (ABORTED)
Reset (value)	W/O
Metric Parameter	N/A
Message Text	Warning: ORASPI-0143.2: There are <$OPTION(disabled_applies)> DISABLED and <$OPTION(aborted_applies)> ABORTED Streams Apply Processes in <$OPTION(dbname)> database. Major: ORASPI-0143.1: There are <$OPTION(disabled_applies)> DISABLED and <$OPTION(aborted_applies)> ABORTED Streams Apply Processes in <$OPTION(dbname)> database.

Metric Number	143 (cont'd)
Instruction Text	**Probable cause:** An apply process might not restart, if it did not shut down cleanly. An apply process disabled during database shutdown is retained in the same state after database restart. A wrong message landed up in the apply process, when it's configured to apply the other type of messages. Apply process is not receiving messages in its queue due to problems in the capture process or the propagation near the capture process. An apply process may not work as expected due to incorrect custom-apply-handlers. A apply process aborts if there is no sufficient privilege to execute the apply handler procedures. An apply process may fail to apply the messages, if the initialization parameter, AQ_TM_PROCESSES that controls time monitoring on queue messages and controls processing of messages with delay and expiration properties specified, is set to zero. **Potential impact:** If an apply process fails to apply the recent changes to the destination database, then it might result in falling behind applying the current changes made to the source database, which in turn will give rise to the latency in data movement from the source to the destination database. Failure in keeping the downstream databases current might result in the failure of database recovery, when the changes made to the database objects in a source database which are logged in the redo log does not guarantee recoverability in the event of user error or media failure. **Suggested action:** Diagnose and correct the apply process errors as reported by the Automatic Action command of this alarm message and try restarting the apply process. If you encounter the error message, "ORA-26666 cannot alter STREAMS process", then run the STOP_APPLY procedure in the DBMS_APPLY_ADM package with the force parameter set to true and restart the apply process. Create a new apply process configuring the right type of the message, if it is not applying the expected type of messages. Check if there is a problem with the capture process or the propagation near the capture process and correct them, when messages are not received in the apply process' queue. Modify or remove the custom-apply-handler procedures, if they are causing the apply errors. If the parameter, AQ_TM_PROCESSES is set to zero, then unset this parameter or set it to a nonzero value. Grant the required EXECUTE privileges for the streams user, if the problem is due to insufficient privilege on the apply handler procedures.
Report Type	Auto
Area/Subarea	Streams/Apply Processes

Metric E144_StrmsApplyErrs

Metric Number	144
Name	StrmsApplyErrs
Severity	Major
Description	Monitors general apply errors in an oracle streams environment
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	Major: 0.5
Reset (value)	W/O
Metric Parameter	N/A
Message Text	Major: ORASPI-0144.1: There are <$THRESHOLD> Streams Apply Errors in <$OPTION(dbname)> database.
Instruction Text	**Probable cause:** When an apply process cannot apply a message, it moves the message and all of the other messages in the same transaction into the error queue. The probable cause could be found in the output of the Automatic Action of this alarm message. **Potential impact:** Delayed apply of messages to the destination database due to these apply errors. Reduced data availability and recoverability in replication environments. **Suggested action:** Diagnose and correct the apply errors as reported by the Automatic Action command of this alarm message and try reapplying the error transactions..
Report Type	Auto
Area/Subarea	Streams/Apply Errors

Metric E145_StrmsCapToAppLatency

Metric Number	145
Name	StrmsCapToAppLatency
Severity	Major
Description	Monitors the number of messages having capture to apply latency higher than the specified threshold in an oracle streams environment
Favorites Group	Yes
Alarming and/or Graphing Metric	A
Collection Interval	15 min
Min/Max Threshold	Maximum
Threshold	Major: 30 (seconds)
Reset (value)	W/O
Metric Parameter	Latency Threshold (in seconds)
Message Text	Major: ORASPI-0145.1: There are <$OPTION(num_messages)> Messages having Capture to Apply Latency higher than the specified threshold of (<$THRESHOLD>) in <$OPTION(dbname)> database's streams environment.

Metric Number	145 (cont'd)
Instruction Text	**Probable cause:** Delay in Apply process due to errors. Problems in database links due to network connection or bandwidth issues. Propagation errors causing the delay. Insufficient Streams Pool memory. A bottle neck in message flow control. Capture latency is high due to waiting for redo or due to large DDL or PDML activity. Capture or Apply process being too busy and not in flow control. **Potential impact:** Delayed data movement reducing the availability. If the replica is used for near real-time reporting, Streams would lag the production database by more than a few seconds, resulting in not providing up-to-date and accurate queries. **Suggested action:** Check if there are any Apply Errors and correct them. Check for Flow Control or Bottleneck indicators in front of apply queues and address them. If there's a problem with propagation sender, look at wait events, streams pool utilization, or network bandwidth and correct if they have any issue. Check if streams pool is allocated sufficient memory and correct it, if not so. Increase Apply parameter PARALLELISM to support more simultaneous transactions. Try setting COMMIT_SERIALISATION parameter to NONE. For tables with LOB columns, use Apply Error Handlers to improve performance. Check if Capture latency is high due to capture process waiting for redo, and if so, make sure all redo logs needed by capture process are available. If an Apply or capture process is too busy or not in flow control, then distribute replicated tables across multiple stream paths.
Report Type	Auto
Area/Subarea	Streams/Performance

Oracle Logfile Policies

This section provides detailed information about the text contained in the DB SPI Oracle logfile policies.

ORA-00018

Description	Max number of sessions exceeded
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: No more request will be processed because the number of session has reached the maximum limit specified by the initialization parameter SESSIONS. Suggested Action: In general, no specific action is required. However, if the message occurs frequently then: 1 Increase the SESSIONS parameter in the initialization parameter file 2 Wait until the next time Oracle is restarted for the value to take effect

ORA-00019

Description	Max number of sessions licenses exceeded
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: All available licenses are in use. Suggested Action: Increase the number of available session licenses.

ORA-00020

Description	Max number of processes exceeded
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: No more request will be processed because the number of session has reached the maximum limit specified by the initialization parameter PROCESSES. Suggested Action: In general, no specific action is required. However, if the message occurs frequently then: 1 Increase the PROCESSES parameter in the initialization parameter file 2 Wait until the next time Oracle is restarted for the new value to take effect

ORA-00025

Description	Failed to allocate memory
Severity	Major
Message Group	Ora_Conf
Help Text	Probable Cause: Oracle ran out of memory. An attempt to allocate memory failed. Suggested Action: Restart Oracle with a larger SGA heap.

ORA-00050

Description	O/S error occurred while obtaining enqueue
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: The necessary operating system resources could not be obtained to complete an Oracle enqueue. This is normally an indication that the user resource quota on the operating system is too low. Suggested Action: The error is operating system specific. Look up the operating system error in the operating system-specific Oracle manuals and perform the corrective action(s) suggested.

ORA-00051

Description	Time-out occurred while waiting for resource
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: In most cases this message is caused by a database instance that has terminated abnormally. Suggested Action: Restart the non-recovered database instance(s).

ORA-00052

Description	Max number of enqueue resources exceeded
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: No more request will be processed because the number of enqueue resources has reached the maximum limit specified by the initialization parameter ENQUEUE_RESOURCES. Suggested Action: In general, no specific action is required. However, if the message occurs frequently then: 1 Increase the ENQUEUE_RESOURCES parameter in the initialization parameter file 2 Wait until the next time Oracle is restarted for the new value to take effect

ORA-00053

Description	Max number of enqueues exceeded
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: The enqueue list for a resource has reached its maximum length. When a request is made for a resource that is unavailable, the request is enqueued to wait for the resource to become available. The number of requests that may be queued for a resource is specified by the initialization parameter ENQUEUE_RESOURCES. No more requests can be added to the enqueue list once it has reached the specified maximum. Suggested Action: In general, no specific action is required. However, if the message occurs frequently then: 1 Increase the ENQUEUE_RESOURCES parameter in the initialization parameter file 2 Wait until the next time Oracle is restarted for the new value to take effect

ORA-00055

Description	Max number of DML_LOCKS exceeded
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: No more request will be processed because the number of DML_LOCKS has reached the maximum limit specified by the initialization parameter DML_LOCKS. Suggested Action: In general, no specific action is required. However, if the message occurs frequently then: 1 Increase the DML_LOCKS parameter in the initialization parameter file 2 Wait until the next time Oracle is restarted for the new value to take effect

ORA-00057

Description	Max number of temp table locks exceeded
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: No more request will be processed because the number of datafiles has reached the maximum limit specified by the initialization parameter DB_FILES. Suggested Action: In general, no specific action is required. However, if the message occurs frequently then 1 Increase the TEMPORARY_TABLE_LOCKS parameter in the initialization parameter file 2 Wait until the next time Oracle is restarted for the new value to take effect

ORA-00059

Description	Max number of datafiles exceeded
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: The maximum number of datafiles allowed is specified by the initialization parameter DB_FILES. When the specified maximum is reached no more requests will be processed. Suggested Action: In general, no specific action is required. However, if the message occurs frequently then: 1 Increase the DB_FILES parameter in the initialization parameter file 2 Wait until the next time Oracle is restarted for the new value to take effect If the DB_FILES parameter is already set to the MAXDATAFILES parameter value (which is set when the database is created), then a new control file will have to be created.

ORA-00063

Description	LOG_FILES initialization parameter exceeded
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: The value of the LOG_FILES initialization parameter was exceeded. Suggested Action: Increase the value of the LOG_FILES parameter in the initialization parameter file. The value should be set to a number higher than the current highest number log file (rather than the count of existing log files). If the LOG_FILES parameter is already set to the MAXLOGFILES parameter value (which is set when the database is created), then a new control file will have to be created.

ORA-00104

Description	Deadlock detected (public servers)
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: The message occurs when the following situation arises: 1 A client locks a resource and tries to get a shared server 2 The maximum number of shared servers are already taken by other clients, who are requesting the locked resource held by the original client 3 The original client is unable to get a shared server and cannot release the lock on the held resource Suggested Action: In general, no specific action is required. The system will automatically start up new servers to break the deadlock, until the number of servers reaches the limit specified in the initialization parameter MTS_MAX_SERVERS. However, if the message occurs frequently then ensure that more servers are available by increasing the value of the initialization parameter MTS_SERVERS or MTS_MAX_SERVERS. The increased number of servers will only become available the next time the database instance is restarted.

ORA-00204

Description	Error reading control file
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred while attempting to read from the specified control file. The block where the failure occurred is given in the message. There can be several possible causes: 1 There is a problem accessing the disk where the file is located 2 Something is wrong with the file itself Suggested Action: 1 Verify that the disk where the file is located is online 2 If the disk is offline, then bring it online and restart Oracle 3 If the disk is online, then look for operating system related problems, that are causing Oracle's inability to read from the disk or file. Consult the operating system-specific Oracle documentation 4 If required, refer to the Oracle Server Administrator's Guide for information on recovering from the loss of a control file

ORA-00206

Description	Error writing control file
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred while attempting to write to the specified control file. The block where the failure occurred is given in the message. There can be several possible causes: 1 There is a problem accessing the disk where the file is located 2 Something is wrong with the file itself Suggested Action: 1 Verify that the disk where the file is located is online 2 If the disk is offline, then bring it online and restart Oracle 3 If the disk is online, then look for operating system related problems, that are causing Oracle's inability to write to the disk or file. Consult the operating system-specific Oracle documentation 4 If required, refer to the Oracle Server Administrator's Guide for information on recovering from the loss of a control file

ORA-00210

Description	Cannot open control file
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred while attempting to open the specified control file. There can be several possible causes: 1 There is a problem accessing the disk where the file is located 2 The file is missing or in the wrong location 3 An operating system-specific condition is preventing the accessing of the file Suggested Action: 1 Verify that the disk where the file is located is online 2 If the disk is offline, then bring it online and restart Oracle 3 If the disk is online, then verify that — The control file exists — The control file is not locked by another program — The operating system limit for number of open files per process has not been exceeded 4 Fix the problem and restart Oracle if required

ORA-00216

Description	Unable to determine block size for control file
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred while attempting to determine the physical block size for the specified control file. Suggested Action: Check the accompanying message stack for more details.

ORA-00217

Description	Inconsistent control file block size
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The physical block size of the specified control file is different from the physical block size of the operating system. This usually indicates that the control file has been corrupted. Suggested Action: Restore a valid control file or re-create the database.

ORA-00218

Description	Changed control file block size
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The physical block size of the specified control file (as stored in its file header) is different than the physical block size returned by the operating system. This usually indicates that the control file has been corrupted. Suggested Action: Restore a valid copy of the control file or re-create the database.

ORA-00221

Description	Error on write to control file
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred while attempting to write to one or more control files. Suggested Action: Check the accompanying message stack for more details.

ORA-00255

Description	Error archiving log
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred while the ARCH process was trying to archive a redo log file. Suggested Action: Check the accompanying message stack for more details. If the indicated redo log file is corrupt, it can still be cleared using the UNARCHIVED option. This will however make it impossible to recover from backups for any time after the log was created.

ORA-00257

Description	Archiver stuck
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred while the ARCH process was trying to archive a redo log file. The problem is normally caused by a lack of available space on the targeted storage device. If the problem is not resolved, the database will no longer be able to execute transactions. Suggested Action: Review the archiver trace file for more details. Verify that the device specified in the initialization parameter ARCHIVE_LOG_DEST is configured correctly and has enough available space.

ORA-00265

Description	Instance recovery required
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: The database was shut down with the ABORT option or has crashed.Recovery of datafiles from the redo logs may not be possible. Suggested Action: Shutdown the database using either the IMMEDIATE or NORMAL options.

ORA-00270

Description	Error creating archive log
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred while creating or opening an archive log. Suggested Action: Verify that the device specified for the archive destination is valid (and available) and has enough available space.

ORA-00272

Description	Error writing archive log
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred while archiving a redo log file. Suggested Action: Verify that the device specified for the archive destination is valid (and available) and has enough available space.

ORA-00290

Description	Operating system archiving error
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: An unexpected operating system error occurred while the ARCH process was trying to archive a redo log file. Suggested Action: Review the operating system-specific Oracle documentation and correct the indicated operating system error.

ORA-00302

Description	Limit of number of redo logs exceeded
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: The maximum number of redo log files (which was set at database creation), has been exceeded. Suggested Action: Increase the value of the MAXLOGFILES parameter using the CREATE CONTROLFILE command.

ORA-00345

Description	Redo log write error
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: An IO error has occurred while writing the log Suggested Action: Correct the cause of the error, and then restart the system. If the log is lost, apply media/incomplete recovery.

ORA-00348

Description	Single process redo failure
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: A failure occurred during a critical portion of the log code during single process operation. This error does not occur during normal multi-process operation. Suggested Action: Shutdown abort and warmstart the database.

ORA-00371

Description	No free buffer handles available
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: Init.ora parameter shared_pool_size is too small Suggested Action: Increase the parameter value.

ORA-00390

Description	Log file is being cleared, cannot become current log
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause: The redo thread failed to switch to a new online log, because it could not find a reusable log. A log is being cleared and will be available when the clearing is done. This message is only a problem if the command that started the clearing terminated without completing it. Suggested Action: 1 If the clear command is still busy executing then simply wait until it completes 2 If the clear command has terminated then either re-enter the clear command or drop the log file.

ORA-00392

Description	Log file is being cleared, operation not allowed
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause: A log is being cleared and will be available when the clearing is done. This is only a problem if the command that started the clearing terminated without completing it. Suggested Action: 1 If the clear command is still busy executing then simply wait until it completes 2 If the clear command has terminated then either re-enter the clear command or drop the log file.

ORA-00436

Description	Oracle is not licensed
Severity	Warning
Message Group	Ora_Admin
Help Text	Probable Cause: The installed Oracle software is not licensed to run on this CPU. Normally this message is an indication that the Oracle software has not been installed correctly or that incorrect licensing codes have been provided. Suggested Action: Verify that Oracle has been installed correctly and that the licensing codes are correct.

ORA-00437

Description	Oracle feature is not licensed
Severity	Warning
Message Group	Ora_Admin
Help Text	Probable Cause: The installed Oracle software is not licensed to run on this CPU. Normally this message is an indication that the Oracle software has not been installed correctly or that incorrect licensing codes have been provided. Suggested Action: Verify that Oracle has been installed correctly and that the licensing codes are correct.

ORA-00443

Description	Background process did not start
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The indicated Oracle process failed to start. This is normally an indication that the executable for the process was not found. Suggested Action: Verify the following things: 1 The executable for the process is in the correct location 2 The file permissions on the executable are sufficient 3 Enough memory is available to start the process (size of SGA) Retry the operation after correcting the problem.

ORA-00444

Description	Background process failed while starting
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The indicated Oracle process failed to start. This is normally an indication that the executable for the process was not found. Suggested Action: Verify the following things: 1 The executable for the process is in the correct location 2 The file permissions on the executable are sufficient 3 Enough memory is available to start the process (size of SGA) Retry the operation after correcting the problem.

ORA-00445

Description	Background process did not start after n seconds
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The indicated Oracle process failed to start. This is normally an indication that the executable for the process was not found. Suggested Action: Verify the following things: 1 The executable for the process is in the correct location 2 The file permissions on the executable are sufficient 3 Enough memory is available to start the process (size of SGA) Retry the operation after correcting the problem.

ORA-00446

Description	Background process started when not expected
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause: A background process started after Oracle was already running. Suggested Action: 1 Review the accompanying messages or corresponding process trace file 2 If the reason the process started cannot be identified, contact Oracle Support

ORA-00447

Description	Fatal error in background process
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: An Oracle background process terminated unexpectedly. Suggested Action: 1 Review the corresponding process trace file and correct any problems 2 Restart Oracle

ORA-00449

Description	Background process unexpectedly terminated
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: An Oracle background process terminated unexpectedly. The problem was detected by a foreground process needing service from the background process. Suggested Action: 1 Review the corresponding process trace file and correct any problems 2 Restart Oracle

ORA-00470

Description	LGWR process terminated with error
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The Oracle Log Writer process terminated abnormally. Suggested Action: 1 Review the corresponding process trace file and correct any problems. It is possible that multiple trace files will have to be reviewed to identify the root cause of the problem 2 Shutdown and restart the Oracle instance

ORA-00471

Description	DBWR process terminated with error
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The Oracle Database Writer process terminated abnormally. Suggested Action: 1 Review the corresponding process trace file and correct any problems. It is possible that multiple trace files will have to be reviewed to identify the root cause of the problem 2 Shutdown and restart the Oracle instance

ORA-00472

Description	PMON process terminated with error
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The Oracle Process Monitor process terminated abnormally. Suggested Action: 1 Review the corresponding process trace file and correct any problems. It is possible that multiple trace files will have to be reviewed to identify the root cause of the problem 2 Shutdown and restart the Oracle instance

ORA-00473

Description	ARCH process terminated with error
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The Oracle Archiver process terminated abnormally. Suggested Action: 1 Review the corresponding process trace file and correct any problems. It is possible that multiple trace files will have to be reviewed to identify the root cause of the problem 2 Shutdown and restart the Oracle instance

ORA-00474

Description	SMON process terminated with error
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The Oracle System Monitor process terminated abnormally. Suggested Action: 1 Review the corresponding process trace file and correct any problems. It is possible that multiple trace files will have to be reviewed to identify the root cause of the problem 2 Shutdown and restart the Oracle instance

ORA-00475

Description	TRWR process terminated with error
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The Oracle System Tracing process terminated abnormally. Suggested Action: 1 Review the corresponding process trace file and correct any problems. It is possible that multiple trace files will have to be reviewed to identify the root cause of the problem 2 Shutdown and restart the Oracle instance

ORA-00476

Description	RECO process terminated with error
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The Oracle Recovery process for two-phase commits terminated abnormally. Suggested Action: 1 Review the corresponding process trace file and correct any problems. It is possible that multiple trace files will have to be reviewed to identify the root cause of the problem 2 Shutdown and restart the Oracle instance

ORA-00477

Description	SNPx process terminated with error
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: A Oracle Snapshot Refresh process terminated abnormally. Suggested Action: 1 Review the corresponding process trace file and correct any problems. It is possible that multiple trace files will have to be reviewed to identify the root cause of the problem 2 Shutdown and restart the Oracle instance

ORA-00480

Description	LCKx process terminated with error
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: A Oracle Lock process terminated abnormally. Suggested Action: 1 Review the corresponding process trace file and correct any problems. It is possible that multiple trace files will have to be reviewed to identify the root cause of the problem 2 Shutdown and restart the Oracle instance

ORA-00483

Description	During shutdown a process abnormally terminated
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: One of the Oracle background processes did not exit normally when the instance was shutdown. Suggested Action: 1 Review the corresponding process trace file and correct any problems. It is possible that multiple trace files will have to be reviewed to identify the root cause of the problem 2 Shutdown the instance using the SHUTDOWN ABORT command

ORA-00600

Description	Internal error code
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause: This is a generic Oracle error message indicating that a process has encountered a low-level unexpected condition, and no specific Oracle error message has been defined. There can be several causes: 1 Hardware, memory or I/O errors 2 File corruption 3 Missing files or incorrectly restored files 4 Time-outs Suggested Action: Report the error to Oracle Support. Corrective action will vary.

ORA-00601

Description	Cleanup lock conflict
Severity	Warning
Message Group	Ora_Fault OBJECT "PMON"
Help Text	Probable Cause: The Oracle Process Monitor process encountered a lock conflict while trying to recover processes. This internal message should not normally be issued. Suggested Action: Report the error to Oracle Support.

ORA-00602

Description	Internal programming exception
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause: An internal programming exception has occurred within the Oracle software. Suggested Action: Report the error to Oracle Support.

ORA-00603

Description	Oracle Server session terminated by fatal error
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause: An Oracle Server session has terminated unexpectedly and is currently in an unrecoverable state. Suggested Action: 1 Examine the session trace file for more details 2 A new session will be created when you login to Oracle again

ORA-00604

Description	Error occurred at recursive SQL level
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred at the indicated level of a recursive SQL statement that relates to internal dictionary tables. Suggested Action: There is normally additional information contained within a subsequent message. If the problem can not be fixed using information from this message, report the error to Oracle Support.

ORA-00606

Description	Internal error code
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause: A call to deferred UPI functions was made in non-deferred mode. Suggested Action: Report the error to Oracle Support.

ORA-00703

Description	Maximum number of dictionary cache instance locks exceeded
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: There are not enough row cache enqueues. Suggested Action: Increase the row cache enqueue parameter and warm start the system.

ORA-00832

Description	No streams pool created and cannot automatically create one
Severity	Major
Message Group	Ora_Conf
Help Text	Probable Cause(s): The parameter, STREAMS_POOL_SIZE is not defined; when a database feature which needs STREAMS_SGA is being used. The value of DB_CACHE_SIZE is too small to permit an automatic transfer of SGA to the streams pool from the buffer cache. Potential Impact: Failure in allocating the streams pool might potentially result in streams failure. Suggested Action(s): Preferably, set the parameter STREAMS_POOL_SIZE or set SGA_TARGET.

ORA-01114

Description	IO error writing block to file
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred while attempting to write to a file. The block where the failure occurred is given in the message. There can be several possible causes: 1 There is a problem accessing the disk where the file is located 2 Something is wrong with the file itself Suggested Action: 1 Verify that the disk where the file is located is online 2 If the disk is offline, then bring it online and retry the operation that failed 3 If the disk is online, then look for operating system related problems, that are causing Oracle's inability to write to the disk or file. Consult the operating system-specific Oracle documentation

ORA-01115

Description	IO error reading block from file
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred while attempting to read from a file. The block where the failure occurred is given in the message. There can be several possible causes: 1 There is a problem accessing the disk where the file is located 2 Something is wrong with the file itself Suggested Action: 1 Verify that the disk where the file is located is online 2 If the disk is offline, then bring it online and retry the operation that failed 3 If the disk is online, then look for operating system related problems, that are causing Oracle's inability to read from the disk or file. Consult the operating system-specific Oracle documentation

ORA-01116

Description	Error in opening datafile
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: An error occurred while attempting to open the specified data file. There can be several possible causes: 1 There is a problem accessing the disk where the file is located 2 The file is missing or in the wrong location 3 An operating system-specific condition is preventing the accessing of the file Suggested Action: 1 Verify that the disk where the file is located is online 2 If the disk is offline, then bring it online and retry the operation 3 If the disk is online, then verify that — The file exists and its access permissions are correct — The operating system limit for number of open files per process has not been exceeded

ORA-01118

Description	Cannot add more datafiles
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: An attempt to add a datafile failed. The number of datafiles has reached the allowed limit. Suggested Action: If more space is required for the database, then the following steps are required: 1 Export the database 2 Recreate it with a higher limit of datafiles 3 If necessary increase the file size as well

ORA-01122

Description	Datafile failed verification check
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause: The information in the datafile does not match the information specified in the control file. There are several potential causes: 1 The datafile is corrupt 2 The datafile is newer than the control file 3 The datafile size does not match what is specified in the control file Suggested Action: Verify that the datafile and control file are the correct ones for the database.

ORA-01123

Description	Cannot start online backup
Severity	Warning
Message Group	Ora_Admin
Help Text	Probable Cause: Archiving is not enabled for the specified online tablespace. Online backup cannot start. Suggested Action: 1 Enable archiving for the tablespace 2 Retry the operation

ORA-01128

Description	Cannot start online backup
Severity	Warning
Message Group	Ora_Admin
Help Text	Probable Cause: The indicated file can not be backed up online because it is offline. Suggested Action: One of two alternatives can be tried: 1 Bring the file online so that it can be backed up OR 2 Perform an offline backup

ORA-01149

Description	Cannot shutdown because online backup set
Severity	Warning
Message Group	Ora_Admin
Help Text	Probable Cause: The online backup is still in progress for the indicated file. A normal shutdown is not possible until it completes. Suggested Action: End the online backup and then retry the shutdown.

ORA-01154

Description	Database busy
Severity	Warning
Message Group	Ora_Admin
Help Text	Probable Cause: An operation that requires the instance to remain open or mounted is still in progress. The database can not be shutdown until it completes. Suggested Action: One of two alternatives can be tried: 1 Wait for the operation to complete and retry the shutdown 2 Use the SHUTDOWN ABORT command to force a shutdown

ORA-01155

Description	Database is being open or closed
Severity	Warning
Message Group	Ora_Admin
Help Text	Probable Cause: The database is being open, closed, mounted or dismounted and the operation is still in progress. The database can not be shutdown until it completes. Suggested Action: One of two alternatives can be tried: 1 Wait for the operation to complete and retry the shutdown 2 Use the SHUTDOWN ABORT command to force a shutdown

ORA-01241

Description	External cache has died
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: The external cache has died or been restarted. Suggested Action: Perform the following steps on the file mentioned in the error stack: 1 Take it offline 2 Perform media recovery on it 3 Bring it online again 4 Retry the operation 5 If necessary, restart all database instances to ensure they are accessing datafiles through a consistent external cache

ORA-01242

Description	Data file suffered media failure
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: A database file is inaccessible due to media failure. Suggested Action: 1 Restore access to the file mentioned in the error stack 2 Restart the database instance

ORA-01243

Description	System tablespace file suffered media failure
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: A system tablespace file is inaccessible due to media failure. Suggested Action: 1 Restore access to the file mentioned in the error stack 2 Restart the database instance

ORA-01541

Description	System tablespace cannot be brought offline
Severity	Warning
Message Group	Ora_Admin
Help Text	Probable Cause: Someone tried to bring the SYSTEM tablespace offline. Suggested Action: The SYSTEM tablespace must always be online. Find out who is trying to take it offline. It may be necessary to shutdown and do a recovery.

ORA-01544

Description	Cannot drop system rollback segment
Severity	Warning
Message Group	Ora_Admin
Help Text	Probable Cause: Someone tried to drop the SYSTEM rollback segment. Suggested Action: Find out who is trying to drop the SYSTEM rollback segment. No further action is required.

ORA-01550

Description	Cannot drop system tablespace
Severity	Warning
Message Group	Ora_Admin
Help Text	Probable Cause: Someone tried to drop the SYSTEM tablespace. Suggested Action: Find out who is trying to drop the SYSTEM tablespace. No further action is required.

ORA-01554

Description	Out of transaction slots in transaction tables
Severity	Major
Message Group	Ora_Conf
Help Text	Probable Cause: There are too many concurrent transactions. Suggested Action: 1 Shutdown Oracle 2 Increase the initialization parameters TRANSACTION and ROLLBACK_SEGMENTS 3 Restart Oracle

ORA-01555

Description	Snapshot too old
Severity	Warning
Message Group	Ora_Admin
Help Text	Probable Cause: Rollback records needed by a reader for consistent read are overwritten by other writers. **Suggested Action:** If in Automatic Undo Management mode, increase undo_retention setting. Otherwise, use larger rollback segments.

ORA-01558

Description	Out of transaction IDs in rollback segment
Severity	Major
Message Group	Ora_Conf
Help Text	Probable Cause: There are no available transaction IDs. Suggested Action: 1 Shut down the instance 2 Restart it using another rollback segment 3 Drop the rollback segment that has no available transaction IDs

ORA-01562

Description	Failed to extend rollback segment
Severity	Major
Message Group	Ora_Fault
Help Text	Probable Cause: Failure occurred when trying to extend rollback segment. Suggested Action: This is normally followed by another error message that caused the failure. You may take the rollback segment offline to perform maintenance. Use the alter rollback segment offline command to take the rollback segment offline.

ORA-01572

Description	Rollback segment to big
Severity	Major
Message Group	Ora_Conf
Help Text	Probable Cause: The number of extents in the rollback segment exceeds the hard limit. It cannot be brought online for writing. Suggested Action: Drop and recreate the rollback segment.

ORA-01574

Description	Max number of concurrent transactions exceeded
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: The maximum number of concurrent transactions allowed is specified by the initialization parameter TRANSACTIONS. When the specified maximum is reached no more requests will be processed. Suggested Action: In general, no specific action is required. However, if the message occurs frequently then 1 increase the TRANSACTIONS parameter in the initialization parameter file 2 wait until the next time Oracle is restarted for the new value to take effect

ORA-01578

Description	Oracle data block corrupted
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The indicated data block is corrupt. Suggested Action: Try to restore the segment containing the corrupted block, by dropping the segment and then recreating it.

ORA-01599

Description	Cache space is full
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause: The allocated space is insufficient. Suggested Action: Take the rollback segment offline.

ORA-01628

Description	Max number of extents reached for rollback segment
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: There are two possible causes: 1 The rollback segment reached its maximum size 2 There is no space in the data dictionary to add the definition of the object Suggested Action: 1 Increase the value of the MAXEXTENTS or PCTINCREASE initialization parameters 2 Change the storage parameters of the data relevant data dictionary

ORA-01629

Description	Max number of extents reached saving undo
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: The maximum amount of space allowed for saving undo entries has been reached for an offline tablespace. Suggested Action: 1 Change the storage parameters of the SYSTEM tablespace if required 2 Bring the indicated tablespace offline so that the undo information can be applied

ORA-01630

Description	Max number of extents reached in temp segment
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: There are two possible causes: 1 The maximum amount of space allowed for saving undo entries has been reached for an temporary segment in the indicated tablespace 2 There is no space in the data dictionary to add the definition of the object Suggested Action: 1 Increase the value of the MAXEXTENTS or PCTINCREASE initialization parameters 2 Change the storage parameters of the data relevant data dictionary

ORA-01631

Description	Max number of extents reached in table
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: The maximum amount of space allowed for saving undo entries has been reached for the indicated table. Suggested Action: Increase the value of the MAXEXTENTS or PCTINCREASE initialization parameters.

ORA-01632

Description	Max number of extents reached in index
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: The maximum amount of space allowed for saving undo entries has been reached for the indicated index. Suggested Action: Increase the value of the MAXEXTENTS or PCTINCREASE initialization parameters.

ORA-01650

Description	Unable to extend rollback segment
Severity	Major
Message Group	Ora_Conf
Help Text	Probable Cause: Could not allocate extent for rollback segment in indicated tablespace. Suggested Action: Use the ALTER TABLESPACE ADD DATAFILE statement to add one or more files to the indicated tablespace.

ORA-01651

Description	Unable to extend save undo segment
Severity	Major
Message Group	Ora_Conf
Help Text	Probable Cause: Could not allocate extent for saving undo entries for the indicated offline tablespace. Suggested Action: 1 Change the storage parameters of the SYSTEM tablespace if required 2 Bring the indicated tablespace offline so that the undo information can be applied

ORA-01652

Description	Unable to extend temp segment
Severity	Major
Message Group	Ora_Conf
Help Text	Probable Cause: Could not allocate extent for temp segment in indicated tablespace. Suggested Action: 1 Use the ALTER TABLESPACE ADD DATAFILE statement to add one or more files to the indicated tablespace OR 2 Create the object in another tablespace

ORA-01653

Description	Unable to extend table
Severity	Major
Message Group	Ora_Conf
Help Text	Probable Cause: Could not allocate extent for table segment in indicated tablespace. Suggested Action: Use the ALTER TABLESPACE ADD DATAFILE statement to add one or more files to the indicated tablespace.

ORA-01654

Description	Unable to extend index
Severity	Major
Message Group	Ora_Conf
Help Text	Probable Cause: Could not allocate extent for index segment in indicated tablespace. Suggested Action: Use the ALTER TABLESPACE ADD DATAFILE statement to add one or more files to the indicated tablespace.

ORA-01655

Description	Unable to extend cluster
Severity	Major
Message Group	Ora_Conf
Help Text	Probable Cause: Could not allocate extent for cluster segment in indicated tablespace. Suggested Action: Use the ALTER TABLESPACE ADD DATAFILE statement to add one or more files to the indicated tablespace.

ORA-01656

Description	Max number of extents reached in cluster
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: The maximum amount of space allowed for saving undo entries has been reached for the indicated cluster. Suggested Action: Increase the value of the MAXEXTENTS or PCTINCREASE initialization parameters.

ORA-12008

Description	Error in materialized view refresh path
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The table SNAP$_<mview_name> gets rows from the view MVIEW$_<mview_name>. This view is on the master table which may be at a remote site. Error would occur at refresh time, if there is any error in this path. The table <master_owner>.MLOG$_<master> is also referenced, for fast refreshes. Suggested Action: Check the stack for other messages, to find the problem. Check whether objects SNAP$_<mview_name>, MVIEW$_<mview_name>, <mowner>.<master>@<dblink>, <mowner>.MLOG$_<master>@<dblink> exist.

ORA-12057

Description	Materialized view "string"."string" is invalid and must complete refresh.
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: Fast refresh of materialized view was performed when the status of materialized view was INVALID. Suggested Action: Complete refresh of the materialized view is required. After complete refresh, check whether the value of the STATUS column is VALID in dba_mviews, all_mviews, or user_mviews to verify that the materialized view is VALID.

ORA-12096

Description	Error in materialized view log on "string"."string".
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: There was an error originating from specified materialized view log. One of the following can cause this : 1. The schema redefinition has occurred on the master table and one or more columns in the log is now a different type than corresponding master column(s). 2. There is a problem accessing the underlying materialized view log table. Suggested Action: Refer the stack for further error message, to get more detail about the cause. If schema redefinition has occured , consider dropping and recreating the materialized view log.

ORA-12097

Description	Changes in the master tables during refresh, try refresh again.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause: During materialized view refresh, some changes such as conventional DML, direct load, partition maintenance operation etc. occured in the master tables. Suggested Action: Perform refresh of the affected materialized views.

ORA-19809

Description	Limit exceeded for recovery files.
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The space limit for recovery files (DB_RECOVERY_FILE_DEST_SIZE) exceeded. Potential Impact: Data storage recovery. Suggested Action: 1. Increase DB_RECOVERY_FILE_DEST_SIZE and add disk space if necessary. 2. Use RMAN to backup the files to some teritary device or delete files from Recovery area. 3. Consider changing RMAN retention policy or archived log deletion policy.

ORA-19815

Description	Warning: String of string bytes is string% used, and has string remaining bytes available.
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: The recovery file space utilization specified by the DB_RECOVERY_FILE_DEST_SIZE is high. Potential Impact: Data storage recovery. Suggested Action: 1. Increase DB_RECOVERY_FILE_DEST_SIZE and add disk space if necessary. 2. Use RMAN to backup the files to some teritary device or delete files from Recovery area. 3. Consider changing RMAN retention policy or archived log deletion policy.

ORA-19816

Description	WARNING: Files may exist in location that are not known to database.
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: One of the following event occured : 1. When instance crashes during the creation of a file in the flash recovery area, Oracle may leave the file in the flash recovery area. 2. Restoration of backup control file. 3. Re-creation of control file. 4. DB_RECOVERY_FILE_DEST has previously been enabled and then disabled. Potential Impact: Data storage recovery. Suggested Action: RMAN command CATALOG RECOVERY AREA can be used to re-catalog such files, which can be seen in RMAN repository. But if the header of such file is corrupt, then the file needs to be deleted manually.

ORA-24033

Description	No recipients for message.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause(s): There were no explicit recipient specified during enqueue call or no queue subscriber was determined to be the recipient for the message, when an enqueue operation was performed on a queue. Potential Impact: Loss of Message. Overhead of recreating and re-propagating the message. Suggested Action(s): Specify the list of recipients in the enqueue call or add subscribers to the queue for intended recipients.

ORA-24093

Description	AQ agent string not granted privileges of database user string.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause(s): The specified database user privileges are not given for the specified AQ agent. Potential Impact: Failure in queue operations or calling any stored procedure handlers. Suggested Action(s): Check the DBA_AQ_AGENT_PRIVS or USER_AQ_AGENT_PRIVS view for user/agent mappings and specify a valid combination of AQ agent and database user.

ORA-26662

Description	Unable to process STREAMS Data Dictionary information for object.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause(s): Unable to process STREAMS Data Dictionary for an object. Potential Impact: Failure in processing streams data. Suggested Action(s): Check if the object is compatible for the database supports, and check the trace file for more information about the object.

ORA-26666

Description	Cannot alter STREAMS process string.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause(s): A STREAMS process that is currently running has been attempted for alter. Potential Impact: Unable to alter a streams process. Suggested Action(s): Stop the STREAMS process with FORCE parameter set to TRUE and then retry altering the process.

ORA-26671

Description	Maximum number of STREAMS processes exceeded.
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause(s): The maximum number of STREAMS processes has been reached. Potential Impact: Cannot create additional STREAMS processes. Suggested Action(s): Remove existing unwanted STREAMS processes and retry the operation.

ORA-26672

Description	Timeout occurred while stopping STREAMS process string.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause(s): Timeout occurred while waiting for a STREAMS process to shut down. Potential Impact: STREAMS process hanging. Suggested Action(s): Retry the operation. If the error persists, try stopping the process with the FORCE option.

ORA-26713

Description	Remote object does not exist or is inaccessible.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause(s): A named table or view at a remote database is not accessible for streams replication to apply changes. Potential Impact: Apply Failure. Suggested Action(s): Check if the given remote table or view exists and is accessible through the given database link. Check the administration details for network connections at the non-Oracle system, if you are using a Heterogeneous Services database link to access a non-Oracle system.

ORA-26715

Description	Time limit reached.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause(s): The time limit specified was reached for the STREAMS process. Potential Impact: The streams process halts. Suggested Action(s): Restart the STREAMS process. Increasing the TIME_LIMIT if necessary.

ORA-26745

Description	Cursors (string) are not sufficient.
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause(s): The maximum number of open cursors was not sufficient for Streams Apply. Potential Impact: Streams Apply Process Failure. Suggested Action(s): Increase the value for maximum number of open cursors.

ORA-26816

Description	STREAMS apply process "string" (OS id string) is exiting due to ORA-number.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause(s): The streams apply process has encountered an unexpected error. Potential Impact: Streams Apply Process Failure. Suggested Action(s): Diagnose the Apply Process Errors and restart the process.

ORA-26826

Description	STREAMS apply coordinator and apply slave are unable to communicate.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause(s): The streams apply process might have aborted or terminated abruptly. Potential Impact: Streams Apply Process Failure. Suggested Action(s): Check your system for anomalies and restart apply process. Check the trace file for more details.

ORA-26708

Description	Remote DDL not supported by STREAMS : dblink string.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause(s): An Apply process tried to apply a DDL LCR through a dblink. It is not supported. Potential Impact: None Suggested Action(s): Do not let the apply process to apply DDL LCRs via dblink, as it is not supported. Filter out the DDL LCRs before they are picked up by apply process.

ORA-26786

Description	A row with key string exists but has conflicting column(s) string in table string.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause(s): Conflicting value for some columns are seen in the row to update or delete in the table. Potential Impact: Incorrect data available due to conflict. Potential loss of the correct data due to conflict. Suggested Action(s): Define a conflict resolution. Resolve the existing conflict and execute the error transaction using DBMS_APPLY_ADM.EXECUTE_ERROR.

ORA-26819

Description	STREAMS capture server number for apply "string" and capture "string" encounters disabled/aborted propagation "string".
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause(s): Disabled or aborted propagation. Potential Impact: Delayed data movement. Suggested Action(s): Enable or restart the propagation.

ORA-38767

Description	Flashback retention target parameter mismatch.
Severity	Critical
Message Group	Ora_Fault
Help Text	Probable Cause: The value of parameters db_flashback_retention_target is not same in all instances. Potential Impact: Data storage recovery. Suggested Action: Check DB_FLASHBACK_RETENTION_TARGET values in all instances, it should be same for all instances.

ORA-38776

Description	Cannot begin flashback generation - flash recovery area is disabled.
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: While doing a database mount, the RVWR process discovered that the FRA was disabled. Either initialization parameter DB_RECOVERY_FILE_DEST is set to null or removed from INIT.ORA file while database was unmounted. Potential Impact: Data storage recovery. Suggested Action: Any of the following : 1. FRA should be enabled for Flashback database by setting initialization parameters DB_RECOVERY_FILE_DEST and DB_RECOVERY_FILE_DEST_SIZE in INIT.ORA. 2. Consider turning off flashback database with the ALTER DATABASE FLASHBACK OFF command.

ORA-38786

Description	Flash recovery area is not enabled.
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: The command that requires FRA to be enabled was performed. Potential Impact: Data storage recovery. Suggested Action: Enable FRA and retry.

ORA-38791

Description	Flashback did not start because file string was not in a valid incarnation.
Severity	Warning
Message Group	Ora_Fault
Help Text	Probable Cause: Could not start flashback because a file was check pointed or fuzzy at a point where the file cannot be restored nor recovered to restore destination. To bring the file to the restore target, the file has to be in one of the incarnations along the ancestral path from the current incarnation to the restore incarnation. Potential Impact: Data storage recovery. Suggested Action: File can be manually restored or recovered to a point where it is in one of the incarnations along the ancestral path from the current incarnation to the restore incarnation.

ORA-38861

Description	Flashback recovery stopped before reaching recovery target.
Severity	Warning
Message Group	Ora_Conf
Help Text	Probable Cause: User attempted to flashback to an SCN or time for which there were no redo logs. Check the alert log to find out which SCN the database recovered to. Potential Impact: Data storage recovery. Suggested Action: One of the following : 1. Flashback to an older SCN. 2. Acquire the necessary redo logs.

Scheduled Task Policies

The Scheduled Task policy commands run on the managed nodes at a regular interval to collect metric data, and send a message to the management server to indicate the success or failure of the command. Use these policies if you want to run commands on one or more managed nodes— once or according to a specific schedule.

The following table lists all the Oracle Scheduled Task policies:

Table 1 Oracle Scheduled Tasks policies

Policy Name	Metrics
DBSPI-Ora-Add-Ons-05min	E011, E020, E038, E039, E040, E048, E050, E054, E059, E075, E085, E087, E089, E113, E114, E115, E116, E117, E118,
DBSPI-Ora-Add-Ons-15min	E063, E081, E100, E101, E102, E103, E104, E105, E106, E107, E108, E109, E110, E111, E112, E119, E127, E128, E133, E136, E334
DBSPI-Ora-Add-Ons-1h	E046, E052, E066, E121, E122, E123, E124, E125, E126, E129, E130, E131, E132
DBSPI-Ora-StreamsMon-15Min	E140, E141, E142, E143, E144, E145
DBSPI-Ora-Listener-Connect	N/A
DBSPI-Ora-Listener	N/A
DBSPI-Ora-UDM-YYmin	7XX
DBSPI-MeasureWare	N/A
DBSPI-Ora-05min-Favorites	E001, E002, E007, E014, E021 - E024, E026 - E030, E031 - E035, E037, E043, E044, E060, E067, E069, E083, E086, E088
DBSPI-Ora-15min-Favorites	E016, E017, E018, E058, E062, E064, E065, E077 - E080, E203
DBSPI-Ora-1d-Favorites	E042, E056, E061, E072
DBSPI-Ora-1h-Favorites	E004, E005, E008, E009, E019, E057, E068, E082
DBSPI-Ora-1d-Reporter	E210, E212, E215, E213
DBSPI-Ora-05min-Reporter	E201
DBSPI-Ora-05min-SQLNet	E001, E007, E011, E104, E020 - E024, E026 - E030, E031, E032 - E035, E037, E038, E039 - E041, E043 - E045, E048 - E051, E054, E059, E060, E067, E069, E075, E083, E085, E086, E087, E088, E089
DBSPI-Ora-15min-SQLNet	E017, E018, E077 - E081
DBSPI-Ora-1d-SQLNet	E042, E061, E072
DBSPI-Ora-1h-SQLNet	E004 - E005, E008, E009, E019, E046 - E047, E052, E057, E068, E082

Table 1 Oracle Scheduled Tasks policies

Policy Name	Metrics
DBSPI-Ora-Add-Ons-05min-NT	E011, E020, E038, E039, E040, E048, E050, E054, E059, E075, E085, E087, E089, E113, E114, E115, E116, E117, E118
DBSPI-Ora-Add-Ons-15min-NT	E063, E081, E100, E101, E102, E103, E104, E105, E106, E107, E108, E109, E110, E111, E112, E119, E127, E128, E133, E136, E334
DBSPI-Ora-Add-Ons-1h-NT	E046, E052, E066, E121, E122, E123, E124, E125, E126, E129, E130, E131, E132
DBSPI-Ora-StreamsMon-15Min-NT	E140, E141, E142, E143, E144, E145
DBSPI-Ora-1d-Reporter-NT	E210, E212, E215, E213
DBSPI-Ora-05min-Reporter-NT	E201

2 Oracle Tools, Reports, and Graphs

This chapter provides Oracle specific information on Tools, Reports, and Graphs. For information on launching tools, configuring DB SPI to generate reports and graphs, and other DB SPI common topics, see the *HP Operations Smart Plug-in for Databases Installation and Configuration Guide*.

Tools

The DB SPI includes tools that apply to all databases, and tools that apply to the specific database you are using.

The DB SPI common tools are located under:

- *Tool Bank* → *DB-SPI*→*Admin* (for UNIX nodes)
- *Tool Bank*→ *DB-SPI*→*Admin Windows* (for Windows nodes)

For more information on common tools, see the *HP Operations Smart Plug-in for Databases Installation and Configuration Guide*.

Oracle specific tools are located under, **Tool Bank**→ **DB-SPI**→ **Oracle**.

Oracle SPI requires that a user named `oracle` exist in group `dba`. If the user `Oracle` is not in group `dba`, you must modify **Customized Startup** to execute some Oracle tools. `Customized Startup` permits a different user login. Start/stop instance tools performs a `connect internal` requiring the executing user to be in group `dba`.

The Oracle collector command is `dbspicao`.

The following table lists the Oracle tools. You must assign the tools to HPOM operators to enable them to run the tools.

Table 2 Oracle SPI tools

Tool	Description	Command
SQL *Plus	Starts "sqlplus" program	`dbspialo -i sqlplus`
Svr Mgr (Text)	Starts "svrmgrl" program	`dbspialo -i svrmgrl`
Start Instance	Starts a database instance.*	`dbspialo -i dbstart`
Shutdown Instance	Shuts down a database instance.*	`dbspialo -i dbshut`
Shutdown Instance Immediate	Shuts down a database instance with "immediate" option.*	`dbspialo -i dbshuti`
SQL Net Status	Prints SQL Net status.	`dbspialo -i netstat`
SQL Net Start	Starts SQL Net.	`dbspialo -i netstart`

Table 2 Oracle SPI tools

SQL Net Stop	Stops SQL Net.	`dbspialo -i netstop`
Oracle LSNRCTL Utility	Calls the "lsnrctl" program for a database instance.	`dbspialo -i lsnrctl`
Export	Calls the "exp" program for a database instance.	`dbspialo -i exp`
Import	Calls the "imp" program for a database instance.	`dbspialo -i imp`
RAC Global Metrics (UNIX)	Allows choice of On/Off/Auto to configure metric collections for clustered databases.	`dbspialo -i rac_mode -u`
RAC Global Metrics (Windows)	Allows choice of On/Off/Auto to configure metric collections for clustered databases.	`dbspialo -i rac_mode -w $OPC_NODES`
Shutdown Instance Abort	Shuts down a database instance with the "abort" option.*	`dbspialo -i dbshuta`
Shutdown all Instances	Shuts down all configured database instances.*	`dbspialo -a dbshut`
Start all Instances	Starts all configured database instances.*	`dbspialo -i svrmgrm`
Svr Mgr (XII)	Starts "svrmgrm" program	`dbspialo -i svrmgrm`
Create Oracle User	Creates an Oracle DB-SPI User	`dbspialo -i dbspiocr`
Drop Oracle User	Drops an Oracle DB-SPI User	`dbspialo -i dbspiodr`

*These tools require an internal connect to the database instance, so the executing account must have `dba` as its primary group (`Oracle`)

Oracle tools except Oracle Reports and Oracle Reports Windows can be run on HP-UX, Linux, and Solaris nodes only.

Figure 1 Oracle SPI Tools

Reports

HPOM generated reports cover *availability, size*, and *workload* of each managed nodes databases. Automatically generated every night, these web-based reports provide you with a routine means of checking the health and efficiency of specific databases.

By showing consolidated information, available otherwise only in pieces, reports provide you with a more complete view of how your database continues to perform over time.

The first reports are generated after HPOM runs through its first nightly schedule. From that point on, you can expect to see updated reports every day because HPOM, by default, re-generates reports every night with the day's data.

The following table lists DB SPI reports available from the HPOM console. The last four columns match those used by Reporter. In a few cases, a metric has different value IDs. For example, when Oracle metric E212_InstSize data is shown next to a value ID column with a number “1” in it, the data indicates “Megabytes Allocated”; data collected for the same metric next to a value ID column with a number “2” in it indicates “Megabytes Free.”

Data source name: DBSPI_ORA_REPORT

Specification file to create the datasource: dbspioosmg.sp

Database Instance name: `<name of the database instance>`

Table 3 Oracle Reports available from the HPOM Console

		Reporter Table Columns			
Report Name	**Description**	**Metric id**	**Object id**	**Value id**	**Value**
Oracle Availability	Reports uptime information	E201	Instance Name	1	Up=5 Down=0
Oracle Instance Size	Instance size in MB allocated and free	E212	Instance Name	1	Megabytes Allocated
				2	Megabytes Fre
Oracle Tablespace Size	Tablespace size in MB allocated and free	E210	Tablespace Name	1	Megabytes Allocated
				2	Megabytes Free
Oracle Segment Size	Segment size in MB allocated	E215	Segment Name	1	Megabytes Allocated
Oracle Workload Oracle I/O	Number of physical reads and writes to the disk since the last collection for each tablespace.	E213	Tablespace Name	1	Delta of physical reads+writes since last collection
Oracle Logons	Number of logons	E037	N/A, these metrics are stored in the graphing data source		
Oracle Transactions	Number of transactions	E044			

Table 3 Oracle Reports available from the HPOM Console

		Reporter Table Columns			
Report Name	**Description**	**Metric id**	**Object id**	**Value id**	**Value**
Oracle Active Message Severity	Message severities for unacknowledged messages as shown over extended time period.	N/A, these are HPOM on HP-UX, Linux, and Solaris reports			
Oracle History Message Severity	Message severities for acknowledged messages as shown over extended time period.				
Oracle Active Messages - Top 20	Top 20 unacknowledged messages at the time of report generation				
Oracle History Messages - Top 20	Top 20 acknowledged messages at the time of report generation.				

Graphs

Graphs represent pictorial representation of metrics. The following section provides information on Oracle-specific graphing metrics.

Metrics for Graphing or Alarming or Both

Some metric data may be used strictly for graphing purposes. You can determine if the metric is a graphing-only metric by viewing the Oracle Metric Summary on page 14, where you can find a column labeled **Graph**.

If this column contains an **A**, the metric generates a message whenever the metric value exceeds a threshold (alarm condition). If this column contains a **G**, the metrics logs the data to generate graphs.

Using Metrics for Graphing Only

You can avoid alarms or messages if you need the data only for graphing. To prevent alarms or messages from being generated, set the measurement threshold policy threshold for the metric to an extreme value (0 for Minimum metrics and 100 or higher for Maximum metrics). For example, for Oracle metric #0022, which measures buffer/cache hit ratio, you might choose to set the threshold to 0.0%. This minimum threshold setting (below which incoming data values would never drop) would allow you to receive and graph data while avoiding nuisance alarms.

Generic Datasource Graphing Metrics

The graphing data is stored in the DB SPI generic datasources. The following table lists the graphs and related metrics available in the Oracle SPI. For metric definitions see, Chapter 1, Oracle Policies.

Data source name: DBSPI_ORA_GRAPH

Specification file to create the datasource: dbspiorag.sp

Database Instance name: `<name of the database instance>`

Table 4 Graphs for Oracle Metrics

Graph Name	Metric Number
Redo	E032, E033, E034
Archive Logs	E056, E057
Archive Device	E058
Tablespace	E006, E007, E008, E009, E011, E016, E017, E018
Shared Pool	E022, E023, E026, E027, E039, E040, E045, E059
Initialization Limits	E028, E031, E085, E087, E089
Rollbacks Generated	E054
Rollbacks Segment	E068, E069
Dump Devices	E062, E064, E065, E066
Table Scan	E030, E041
Table and Index Status	E042, E046, E047, E048
Waits	E021, E024, E029, E038, E043
Sorts	E019, E052
Sorts Memory/Rows	E020, E051
Calls	E049, E050, E075, E044
Checkpoints	E035, E083
Sessions	E037, E082
Parallel Query Option	E070, E071, E074, E076
Multi-threaded Server	E090, E091, E092, E093, E094, E095, E096

Generic Datasource Format

The generic datasource reserves a column for the database instance name, labeled INSTANCENAME. This column, then, contains the information that differentiates the data collected for each instance. Other columns represent the graphing metrics.

The following table is a sample of the Datasource Table. The complete list of all the graphing metrics is stored in the `dbspiorag.fm` file located at:

For Windows: <*ovagentdir*>`\bin\instrumentation`.

For HP-UX, Linux, and Solaris: `/var/opt/OV/bin/instrumentation`

Table 5 Format of Generic Datasource

INSTANCE NAME	E001_DBINS TANCESTAT	E004_USERST MPDFLTCNT	E005_OBJCTS FORIGNCNT	...
<*value*>	<*value*>	<*value*>	<*value*>	<*value*>
<*value*>	<*value*>	<*value*>	<*value*>	<*value*>

A Golden Metrics

Golden metrics are a set of metrics which monitor the basic functionality of your database server. Golden metrics cover the critical areas such as database availability and details on table spaces and segments for which you would like to receive messages as a critical or major event happens on the database server. Implementing golden metrics and taking action against the events generated by these metrics ensure the smooth functioning of the database server.

Table 6 Golden Metrics

Metric Type	Metric
Availability	Metric E001_DbInstanceStat
	Metric E002_ProcessStatus
	Metric E082_SessHighwatrCnt
Table spaces	Metric E003_TblSpaceFreeCnt
	Metric E006_TblSpFreePctCnt
	Metric E007_TblSpcStatusCnt
	Metric E008_TSBReadRatioCnt
	Metric E009_TSTmpExntPctCnt
	Metric E011_TblSpcFrgmntCnt
Segments	Metric E016_SegmntExtendCnt
	Metric E017_SegMaxExtentCnt
	Metric E018_SegExtRapidCnt
Shared Pool	Metric E026_DictCacheHitPct
	Metric E027_LibCachRelodPct
	Metric E039_LibCacGetHitPct
	Metric E040_LibCacPinHitPct
	Metric E045_ShrdPoolFreePct
	Metric E059_CursorCachePct
Transactions	Metric E054_RollbackRate
	Metric E085_TransactionPct

Table 6 Golden Metrics

Metric Type	Metric
Tables and Indexes	Metric E030_FulLgTblScnRate
	Metric E042_UnlyzTblIndxPct
	Metric E046_RowFetcByIdxPct
	Metric E048_ChandRowFtchPct
Locks	Metric E028_LocksUsedPct
	Metric E029_SessWaitLckCnt
	Metric E097_DisbldTblLckNum
Redo	Metric E032_RedoLgSpcReqCnt
	Metric E033_RedoAlocLtchPct
	Metric E034_RedoCopyLtchPct
Archive/Trace	Metric E056_ArchvFreeSpcCnt
	Metric E057_ArchiveFreqRate
	Metric E058_ArchvFreeSpcPct
	Metric E060_RedoUnarchvdCnt
Query Monitoring	Metric E101_DiskReadsPerExecRatio & 301 (drill-down)
	Metric E102_SQLFetchesMax & 302 (drill-down)
	Metric E103_SQLScanRowsMax & 303 (drill-down)
	Metric E104_SQLExecRateMax & 304 (drill-down)
	Metric E105_BufferGetsPerExecRatio & 305 (drill-down)
	Metric E106_SQLElapsedTimeMax & 306 (drill-down)
	Metric E107_SQLCPUTimeMax & 307 (drill-down)
	Metric E108_SQLFullTableScanMax & 308 (drill-down)
	Metric E119_HeavySQLNum
Sort	Metric E004_UsersTmpDfltCnt
	Metric E014_DataFSatusCnt
	Metric E019_SortDiskRate
	Metric E020_SortMemoryPct
	Metric E031_OpenCrsrPctCnt
	Metric E052_SortTotalRate

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