Report Summary

Date: Aug. 20, 2011, midnight

Stanford

ID: 1

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WARN	Cluster [hmidb0]; Service [base]: Live vs Dead Rows	drms_sessions tables contain high amounts of dead rows
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INFO	Cluster [hmidb0]; Service [base]: Average Traffic	Average traffic per day
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INFO	Cluster [hmidb0_sums]; Service [query]: Average Traffic	Average traffic per day
INFO	Cluster [hmidb0_sums]; Service [base]: Sequential Row Reads	Table row data is read from disk rather than already being cached in memory.
WARN	Cluster [hmidb0_sums]; Service [base]: Table Block Stats	Tables public.sum_main and public.sum_partn_alloc are being read from disk
WARN	Cluster [hmidb0_sums]; Service [base]: Database Block Stats	Database jsoc_sums has high disk reads
INFO	Cluster [hmidb0_sums]; Service [base]: Dead vs. Live Rows	public.sum_partn_avail in jsoc_sums bad dead vs. live ratio
WARN	Cluster [hmidb0_sums]; Service [base]: public.sum_main high blocks read	Table public.sum_main has a high 'Heap Blks Read' count but a low 'Idx Blks Hit'. The index hit ratio on this table is high but the table hit ratio itself is low

Cluster: hmidb0

Collector UUID: 423971c4-b256-11df-8c2d-0800274182f7
Cluster ID: 1
Operating System: None
Host Name or IP: 192.168.0.49
Postgres Port: 5432

Subscribed Services

Service	Description
Query	pgFouine reporting
Base	Base monitoring service
System	SSH-based system and I/O stats

Service: Query

pgFouine reporting

INFORMATION	We will be using the pgfouine reports for query tuning
	We will be moving on query tuning, using up to half of your admin pack hours to do so. Watch the pgfouine html reports for changes in the coming weeks and months.
References	423971c4-b256-11df-8c2d-0800274182f7.1.query.cust_cluster.report.html

Service: Base

Base monitoring service

WARNING	Background Writer Buffers still low
	The background writer buffers are still low on hmidb0. This coupled with the bgwriter spikes suggests that bgwriter tuning needs more changes. We'll be suggesting another bgwriter tuning process to help increase the amount of buffers written by the background writer.
References	423971c4-b256-11df-8c2d-0800274182f7.1.base.cust_cluster.report.pdf
INFORMATION	tables aia.lev0 and hmi.lev1 have high disk reads
	Two tables have a high number of reads from disc, they are aia.lev0 and hmi.lev1. Previous months data shows that this is unusual, as normally the data is retrieved from memory. Suggestion: We are requesting that you allow us to use some of your admin pack hours to do some buffercache stats research on these tables. NOTE: The two tables do not show up in this week's top 10 but we will continue to monitor
References	423971c4-b256-11df-8c2d-0800274182f7.1.jsoc.base.cust_tab.report.pdf
WARNING	drms_sessions tables contain high amounts of dead rows
	In our top ten tables with a high amount of dead rows, five of them are the drms_session tables from various schemas. When looking behind these tables, they all receive a high number of UPDATEs, but low INSERTs and DELETEs. Suggestion: Review vacuum strategy for the drms_session tables. We suggest using admin pack hours to allow us to 'rebuild' these tables to eliminate the dead space.
References	423971c4-b256-11df-8c2d-0800274182f7.1.jsoc.base.cust_tab.report.pdf
WARNING	aia_test.lev1p5 has a very high number of dead rows
	Table aia_test.lev1p5 has an average of 4,000 deletes per hour, causing a high amount of deadspace to grow rapidly. Autovacuum doesn't vacuum the table until there are over 10,000 dead rows, which can happen once a week or even less. We suggest you use some admin pack hours to allow us to prepare a new vacuum strategy for this table.
References	423971c4-b256-11df-8c2d-0800274182f7.1.jsoc.base.cust_tab.report.pdf
INFORMATION	Requested Checkpoints May Show Problems
	We would like to know why we are occasionally seeing requested checkpoints. While requesting checkpoints may not be a bad thing, it depends on the reason - if you are requesting checkpoints because you have to for performance, stability, or other similar reasons, there may be some other problem. Otherwise, it's probably not a big deal. NOTE: There were no requested checkpoint spikes this week but we'll keep an eye on this.
References	423971c4-b256-11df-82d-0800274182f7.1.base.cust_cluster.report.pdf
WARNING	Tuning the buffers written by background processes
	After doing some research, we found that the metric, 'Buffers Written by Background Processes (NOT the BGWriter)', shows us the number of buffers that are written directly to disk because the buffer pool is not set large enough to contain the data from an insert or update statement. We are requesting that you allow us to use some of your admin pack hours to look at your server and see if we can increase your buffer pool enough to reduce the numbers on this graph significantly.
References	423971c4-b256-11df-8c2d-0800274182f7.1.base.cust_cluster.report.pdf
INFORMATION	Awaiting approval of Explain Analyze schedule for query tuning
	We propose setting up a schedule where we can have queries set up to run EXPLAIN ANALYZE on the database during non-peak hours (say midnight till 6AM), to allow us to get timings and work on improving them. Once approved, this schedule will be used for ongoing query tuning when problematic queries arise.
References	423971c4-b256-11df-8c2d-0800274182f7.1.query.cust_cluster.report.html
WARNING	BGWriter Stops Spike
	We saw a number of large bgwriter stops again, this report. We will continue to monitor these graphs to determine which values we need to increase or decrease to get the stops down to a minimum.
References	423971c4-b256-11df-8c2d-0800274182f7.1.base.cust_cluster.report.pdf

WARNING	Tables are continuing to be read more often
	Table hit ratios are decreasing, dead space is climbing, and block stats are showing significantly more disk reads than before. We highly recommend using some of your admin pack hours to have us analyze the source of this and discover some way of bringing your hit ratios back to where they used to be.
References	423971c4-b256-11df-8c2d-0800274182f7.1.jsoc.base.cust_tab.report.pdf
INFORMATION	Average traffic per day
	Your average traffic per day over the last week is approximately 579MB/s
References	423971c4-b256-11df-8c2d-0800274182f7.1.base.cust_cluster.report.pdf

Cluster: hmidb0_sums

Collector UUID: 423971c4-b256-11df-8c2d-0800274182f7
Cluster ID: 8
Operating System: None
Host Name or IP: 192.168.0.49
Postgres Port: 5434

Subscribed Services

Service	Description
Query	pgFouine reporting
Base	Base monitoring service

Service: Query

pgFouine reporting

INFORMATION	Average traffic per day
	Your average traffic per day over the last week is approximately 103.7GB/s
References	423971c4-b256-11df-8c2d-0800274182f7.8.base.cust_cluster.report.pdf

Service: Base

Base monitoring service

INFORMATION	Table row data is read from disk rather than already being cached in memory.
	Table public.sum_partn_alloc has high seq row read as well as a high heap blocks hit. Looking at the select statements that access this table in the pgfouine reports may suggest revisiting the index strategy for this table.
References	423971c4-b256-11df-8c2d-0800274182f7.8.jsoc_sums.base.cust_tab.report.pdf
WARNING	Tables public.sum_main and public.sum_partn_alloc are being read from disk
	Tables public.sum_main and public.sum_partn_alloc have very high disk reads and very low memory hits. These two tables look to be the main culprits for the database level block stats, so if and when we tune the database block stats, we will probably be looking at these two tables.
References	423971c4-b256-11df-8c2d-0800274182f7.8.jsoc_sums.base.cust_tab.report.pdf
WARNING	Database jsoc_sums has high disk reads
	We are seeing a very high number of disk reads vs. memory hits for the jsoc_sums database. If this continues, we may want to look into tuning these statistics.
References	423971c4-b256-11df-8c2d-0800274182f7.8.jsoc_sums.base.cust_db.report.pdf
INFORMATION	public.sum_partn_avail in jsoc_sums bad dead vs. live ratio
	Table public.sum_partn_avail in the jsoc_sums database has consistently had more dead rows than live rows. Since it seems to be accessed often, this could cause a problem even though it has a low number of rows. We recommend using some of your admin pack hours to have us plan a new vacuum strategy for this table.
References	423971c4-b256-11df-8c2d-0800274182f7.8.jsoc_sums.base.cust_tab.report.pdf
WARNING	Table public.sum_main has a high 'Heap Blks Read' count but a low 'Idx Blks Hit'. The index hit ratio on this table is high but the table hit ratio itself is low
	In 'Table Scans Activity' this table shows lots of sequential row reads and 'Table Activity' shows lots of activity on this table. This looks like a few indexes are used to read lots of data from the table and then update that table based on either those indexes or no indexes. Since there is so much data read from disk, it looks like the table's data turns over regularly and therefore may not be able to be cached. We'll keep an eye on this.
References	423971c4-b256-11df-8c2d-0800274182f7.8.jsoc_sums.base.cust_tab.report.pdf