# 2023-02-21 PLA Active ad groups deleted reducing Impressions by 30%

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| **Environment** | Production |
| **Description** | Brief Issue Description:  PLA CPC Impressions were reduced 30% due to plpcpcsync batch inactive ad group cleanup job improperly marking active ad groups as inactive.  Post - Restoration of the active ad groups, CPC Backend was sending inactive signals to SDF and SDF status did not properly sync to 2 of 3 cassini HBase colos.  This caused inactive CPC listings to be displayed and out of budget count increased.  What was failing: Buyers were still presented with Items on SRP but some may have been organic, PLS, or less relevant PLA. |
| **Reviewed by** | [Sonthy, Uday](file:////display/~vsonthy) [Arrabolu, Veera](file:////display/~varrabolu) [Balaswamy, Preeti](file:////display/~pbalaswamy) [Pillai, Shrijit](file:////display/~shrpillai) [Wang, Freecia](file:////display/~freewang) [Iyamperumal, Ganesh](file:////display/~gaiyamperumal) [Qi, Sean](file:////display/~shuqi) [Bhosale, Sagar](file:////display/~sbhosale) [Shu, Xinxin](file:////display/~xshu) [Liu, Pavel](file:////display/~yualiu) [Wu, Emily](file:////display/~tzwu) [Mathew, Rekha](file:////display/~rekmathew) [Joseph, Jaino](file:////display/~jajoseph) [Xie, Andy](file:////display/~haxie) [Villa, Venkat](file:////display/~vevilla) [Shankar, Manohara](file:////display/~mashankar) [Chan, Jason](file:////display/~jaschan) [Ramakrishnan, Gopinath](file:////display/~gramakrishnan) |
| **Problem Report** | Incident Ticket INC1299075  ATB  Timeline (**MST**):  Feb 21, 2023  12:43 - 13:51 --> plpcpcsync Batch job Run: job was intended to mark the adGroups as Inactive on SDF.  Rollout was sharded by host and 1 host was the candidate run. The dashboard showed no anomaly so rollout was continued.  12:30  --> Dip in the No of Active AdGroups on QSS from 200K to 164K  16:00 MST Ads Infra alerts for PLA notified  <https://ebay-eng.slack.com/archives/C02PWMYR54J/p1677020413277749> and Ads Infra on-call checked for any Search related EPs which might be pulling down revenue, impressions, and CPC Click Through Rate <https://console.sherlock.io/d/O4VanoaMz/cpc-monitoring-real-time-cpc-search-dashboard?orgId=1&from=1676985703238&to=1677146521262&viewPanel=203>  pla\_dWeb\_revenue\_drop\_WoW, \_ad\_PLGMV\_realtime\_dWeb, \_ad\_TotalPLARevenue\_realtime,  pla\_global\_revenue\_drop\_WoW,  17:21 Ads Infra on-call reaches out on #ops-ebay noting a CPC CTR Clicks/Sales & Revenue Drop <https://ebay-eng.slack.com/archives/C0G4ZU28J/p1677025304374829> where Ads side checked for any additional potential EPs and on #cpc\_search\_product\_analytics  20:00 Search full indexing ran. This caused the earlier change to register and the quantity of Active AdGroups on QSS went from 170K to 80K.  20:11 Ads CPC Search engaged further with pager <https://ebay-cpt.pagerduty.com/incidents/Q07QR6MLRRX1N4> noting "Surface rate and match rate are dropping for CPC" after checking Search side <https://ebay-eng.slack.com/archives/C01JGPBHWKW/p1677029549701839>  21:41 Search team found the number of AdGroups in the index dropped  22:30 ADS CPC team got engaged by pager duty  23:45 ADS CPC Backend team found out the root cause  23:50 - 01:30 AM  --> CPC Backend team ran the batch job to correct the data by reinstating active adGroups . Started running it by different host and then running multiple hosts once Search agreed based on assessment that the additional bursts of load could be handled.  Feb 22, 2023  01:30 AM All the adGroups are corrected and updated to SDF  01:45 AM  We still see the AdTerm table still increasing, so there is some delay for the Keyword updates to reach the AdTerm table. Delay probably on the SDF side.  2:00 AM At this point he AdTerm table active doc count still increasing. Current value is at 960K , Feb 21 same the value was 1.6 Mill , so we expect 2 hours more for this.  Team waits for the upcoming 4:00 search full indexing bulk batch run as it should take care of the remaining docs as match rate was still lower than normal <https://console.sherlock.io/d/O4VanoaMz/cpc-monitoring-real-time-cpc-search-dashboard?orgId=1&from=1676985703238&to=1677146521262&viewPanel=151>     1. Traffic ramp timeline: 2. Analytics: |
| **FCI** | Buyers were not presented with as large variety of PLA Sponsored listings in SRP results (Impressions decreased).  Items from active PLA campaigns with available Seller budget were not surfaced.  This results in a poor Seller PLA customer experience. |
| **Domain Impacted** | Advertising Promoted Listings Advanced CPC |
| **Revenue Impact** | AdGroup Batch 2/21 12:43 MST deletion start - 2/22 04:00 Bulk Index picked up restored AdGroups  ~$43,000 potential PLA Revenue loss inclusive of the elevated PLA Revenue due to the Relevance Filter [2023-02-16 PLA SRP Relevance Filter - incorrect model and filter value](file:////display/AdsInfra/2023-02-16+PLA+SRP+Relevance+Filter+-+incorrect+model+and+filter+value)  Pessimistically, ~ $50,000 loss if PLA Revenue was normalized for PLA Revenue increase of 8% during 2/21-2/22 compared to prior week before relevance filter 2/14 - 2/15.  Doing the same for Out of Budget on 2/22, there wasn't significant Global PLA Revenue impact |
| **Triage** | How issue was found and information supplied to indicate there was an issue. -→ We were informed of the Adgroup count drop from SDF and then we checked on oracle Active Adgroup count to confirm the drop. |
| **Examine** | Given that we had a batch run the same morning ( 10 hours back) , we validated the data by different Oracle queries to see if that batch could have caused it.  This earlier batch run also changed the adGroup count. |
| **Root Cause** | plpcpcsync batch code change which is run daily.  New batch version (optimize DAL calls) excluded a conditional check for Active Item count to determine if an ad group is meant to be ACTIVE or INACTIVE.  The adGroup cleanup did not include all adGroups (drop to 0) because it was looking within a specific time window (set for 120d) for changed adGroups. |
| **Cure** | * Ran the fix ad groups reconciliation batch job to correct the incorrectly marked ad groups, restored the data. * Wait for the 3x daily bulk index to fully pick up * We paused the Inactive AdGroups batch for now till it is fixed. – Still pending as of 3/2 |
| **Opportunities** | What can be improved   * Monitoring   + - We will add an active PLA Adgroup counts & changed adGroup counts graph to dashboard (primary)  and also add important alerts     - We are working on [ADSCPC-2609](https://jirap.corp.ebay.com/browse/ADSCPC-2609) this sprint     - Add alert for plpcpc BES Consumer for higher amount of traffic? * Code   + Have a design review with the team on the algo. PR reviewers need to reference the approved design while reviewing code     - Suggestion from Sean - increase code coverage and add unit test not touched by refactor for production bugs.   + Code Coverage 80%     - Corresponding unit tests was incorrect (to match the code) with the refactor. * Automation   + In the Integration test plan include the batch run arguments include name and run params * Process   + Follow the robust [batch rollout process](file:////pages/viewpage.action%3fpageId=1174352461)  for all batches going forward   + Reduce daily batch lookback to shorter time range such as 2-3d   + Enhance batch job when the reads are more than expected, batch should be stopped before data reach BES Consumer & email/notify job termination.  If possible, avoid populating further DB updates to SDF (after batch job stopped).   + List all batches jobs which can change the quantity of adGroups   + Add SOP including breakdown of PagerDuty contacts per team     - 2631 - Ads Interface - Group 4 1 → SDF (Cassini) |
| **Flow** | Data/Pool Dependencies  plpcpcsync batch job → plcpc BES Consumer → SDF (Search Raptor API r1schdatafd)  → HBase → Cassini |
| **Rollback** |  |
| **Related items** | <https://adsshepherd.muse.vip.ebay.com/incident/138>  [ADSCPC-2582](https://jirap.corp.ebay.com/browse/ADSCPC-2582) - Drop in active ad group Closed  [ADSCPC-2609](https://jirap.corp.ebay.com/browse/ADSCPC-2609) - Active AdGroup Count Dashboard Graph Closed  [SBE-43987](https://jirap.corp.ebay.com/browse/SBE-43987) - Production : PLA Increase in Out of budget clicks 02/22/2023 Closed  [SHEPHERD-2480](https://jirap.corp.ebay.com/browse/SHEPHERD-2480) - Alerting rule to monitoring Cassini Adgroup deletion spike and low ad\_terms Closed  [SHEPHERD-2543](https://jirap.corp.ebay.com/browse/SHEPHERD-2543) - Alerting rule to monitoring Cassini zero recall SRP EP incident Closed  [4.18. RCA of OOB Clicks Spikes for https://jirap.corp.ebay.com/browse/SBE-43987](file:////pages/viewpage.action%3fpageId=1174347904) |
| **Status** | Incident Status, RCA edit status |