

04/27

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breakdown of different domain names of streaming bytes

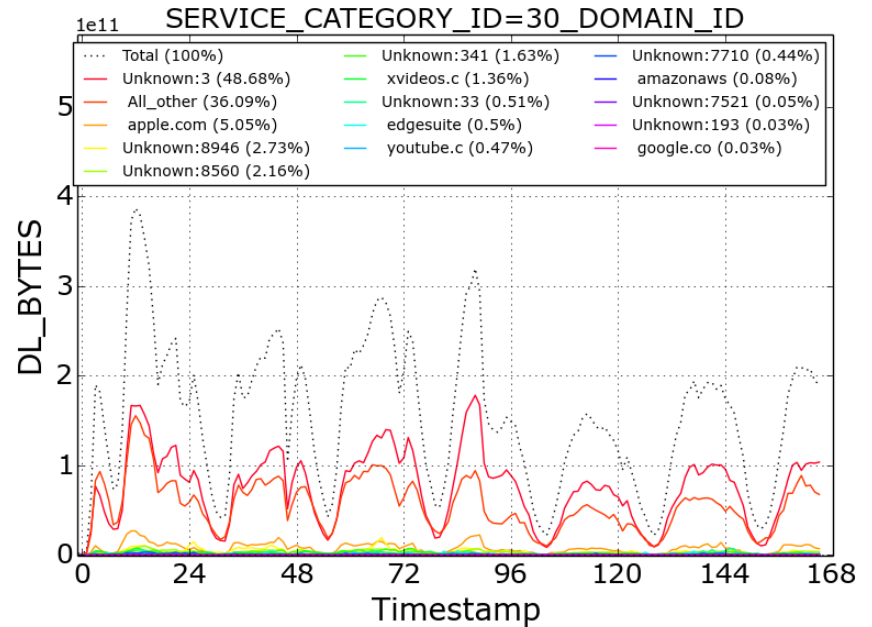
Time: 11/24/2014-11/30/2014

Field: DL_BYTES

Market: EDMARKET=NYCNY

Takeaway: Most of the domain_id are not shown in Appendix C, but the doc says "available in mobref.top_domain_list", I guess there are full mappings.

Id 3 takes 49% traffic, apple.com takes 5%, all other domain names' portions are relatively small.



colocated enbs

Ajay's email explaining neighboring enbs:

Three ways to capture neighbors:

1) X2-link based (most accurate)

a. Used to determine how to handover UEs from one enodeb to the next

2) Geo-based (using lat/long)

3) EnodeB/TAC mapping

a. TAC = Tracking Area Code

I'm using 3) method, TAC mapping to get 18 colocated enbs in NYCNY market:

Time: 11/24/2014-11/30/2014

Field: DL_BYTES

Enodebs:

NWL03822 vs. NWL03826

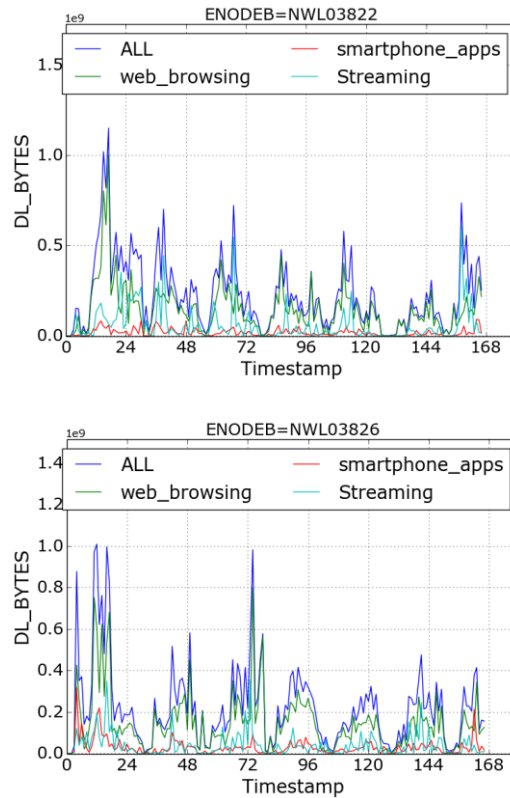
Takeaway:

"Neighboring correlation" is not visually significant.
Need technique to judge if nearby enbs have correlation? Challenges:

1. data integrity issue (missing data)
2. hourly granularity (coarse granularity)
3. make sure it's "neighboring correlation" but not "global correlation" due to time-of-day effect

Question:

We want to see it's not correlated so enbs can help each other?



capacity metric discussion

Briefly read paper [1], which is a good overview paper, with emphasis on RB scheduling. However, the "available capacity" question still remains unclear. For capacity, we want to know "how busy is a enb", I think at least in [1] and Magus' modeling, enbs are always 100% busy.

I guess such "100% busy" situation is not true in reality. The concept we discussed in last meeting (I forgot the term), Resource Block Usage (?) captures enbs' degree of busy, and thus that's the metric we should use to tell whether some enbs have the opportunity to improve service.

More, current DL_BYTES metric is good busy-or-not metric too, *if we assume, for any enb, the SINR distribution of all its UEs follows a predetermined distribution, no matter how many UEs are currently served by this enb* (to be clear, for example, for busy hour, one enb may serve 100 UEs, but for relatively-idle hour, it may only serve 10 UEs, the SINR distribution of those 100 UEs is identical to the SINR distribution of those 10 UEs). With above assumption, SINR won't affect metric any more, only number of UEs and throughput/load of each UE matter --> busy-or-not metric.

[1] F. Capozzi, G. Piro, L. A. Grieco, G. Boggia, and P. Camarda, "Downlink packet scheduling in lte cellular networks: Key design issues and a survey," Communications Surveys & Tutorials, IEEE, vol. 15, no. 2, pp. 678–700, 2013.