From: Spitzer, Andras ([redacted])
Sent: Thursday, June 20, 2013 3:31 PM
To: [redacted] ([redacted])
Cc: [redacted] ([redacted]); [redacted] ([redacted]); [redacted] ([redacted]); @[redacted]
Subject: ISS vs TSG LDAP numbers comparison

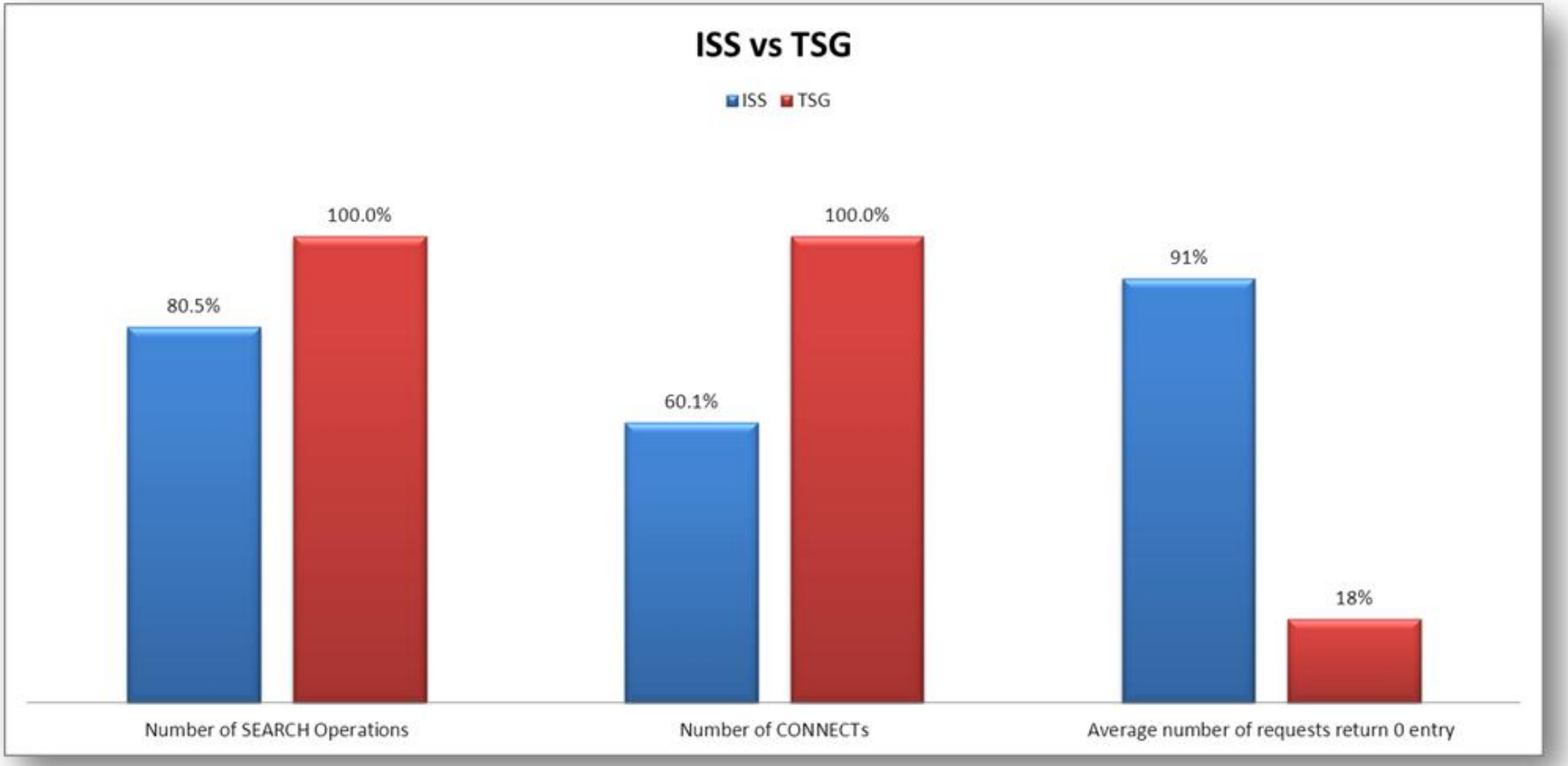
Jon,

Please find below the **results of our latest study about comparing ISS and TSG LDAP numbers**. The study is based on exactly 3 days of data, from 2013 June 10th 11:00 till 2013 June 13th 11:00, on the ISS side we had logs from the Alpharetta and Cincinnati DPS (Directory Proxy Server), from the TSG side we had logs from Alpharetta, Cincinnati, Greenville, Houston, Schenectady prod and dev LDAP servers. I **created two major set of graphs**, **one** where I only compared the numbers of the two environments, which is somewhat a summary of the comparison and where I only use percent instead of actual numbers (I have the numbers too in case you are interested, though I thought Its more meaningful if we can compare these environment to each other), so on each graph you'll see a 100% column which is always the site which had the highest number, then the rest of the sites are compared to that amount.

The second set of graphs are more detailed about the 3 days, since it'll show you the numbers over time. It'll show you the number of connections, average and peak, and number of operations, average and peak. One piece of information I wanted to present and I couldn't was the "current number of connections". I worked hard to present that, and my tools are capable of replaying that based on both DPS and Master/Consumer logs, unfortunately though I had to realize that for some reason a lot of UNBIND/DISCONNECT entries are missing from the logs. That's not really normal because even if a client forcefully drops the connection, the server log may miss the UNBIND but never the DISCONNECT. Still, in many cases both the UNBIND/DISCONNECT were missing, so when I replayed the logs counting for the "current number of connections", these "ghost connections" kept the number increasing unreasonably. I also added a virtual "idle timeout" feature to my scripts, so even it could replay that number with lost "UNBIND/DISCONNECT" entries, but the numbers just never got right. Because of this I decided not to present this number, as it can be considered untrustworthy. True though I couldn't draw "current number of connections" , I was able to draw the number of new connections per second.

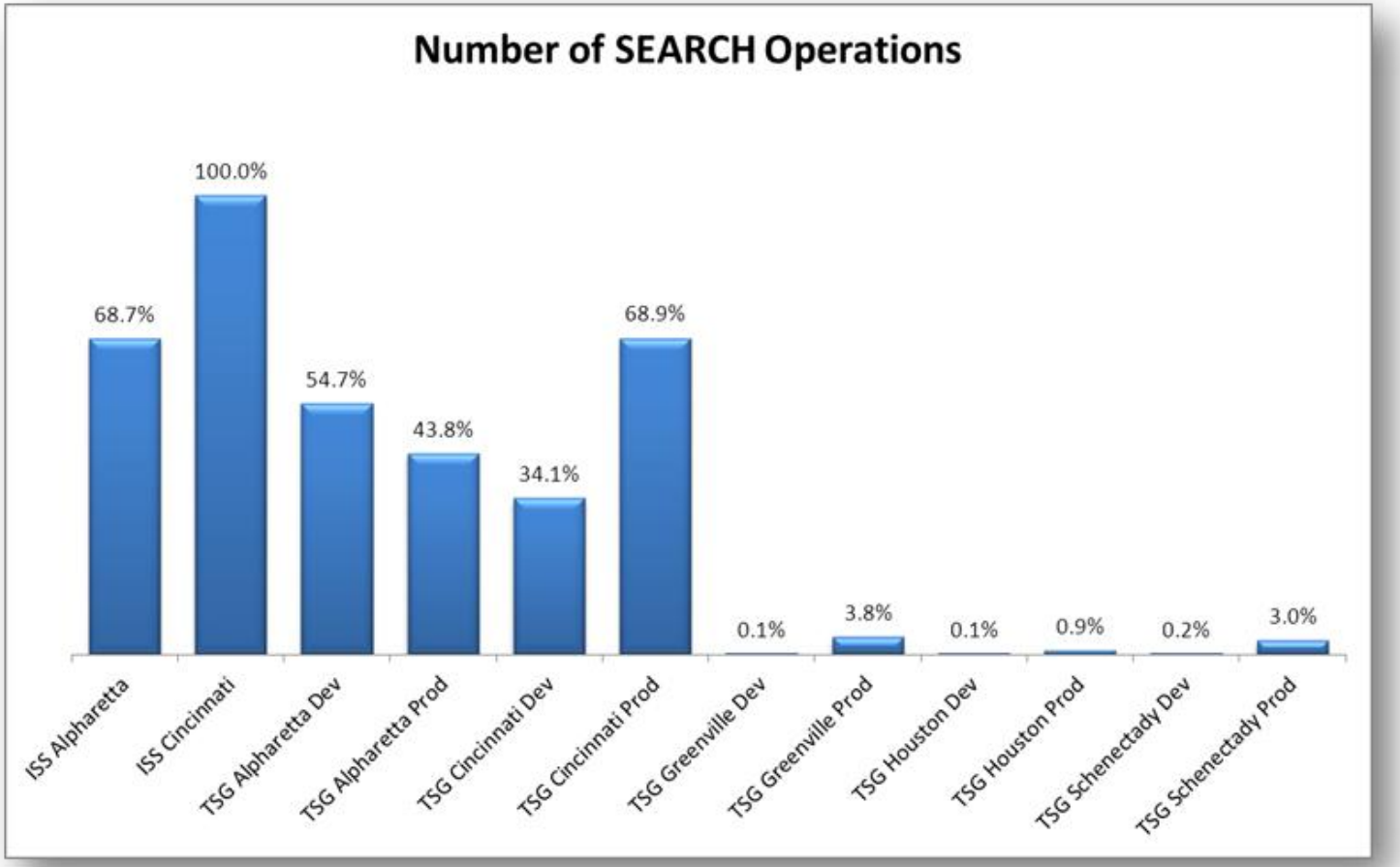
The rest of the numbers are perfect, because there I had the chance to reset the counters every five minute, and even if there were a few minor missing records, it couldn't possible add up enough to disfigure the overall result and the graphs.

And now **let's see the graphs**, first the main graph, ISS vs TSG, when all the numbers are combined and grouped by as either ISS or TSG :

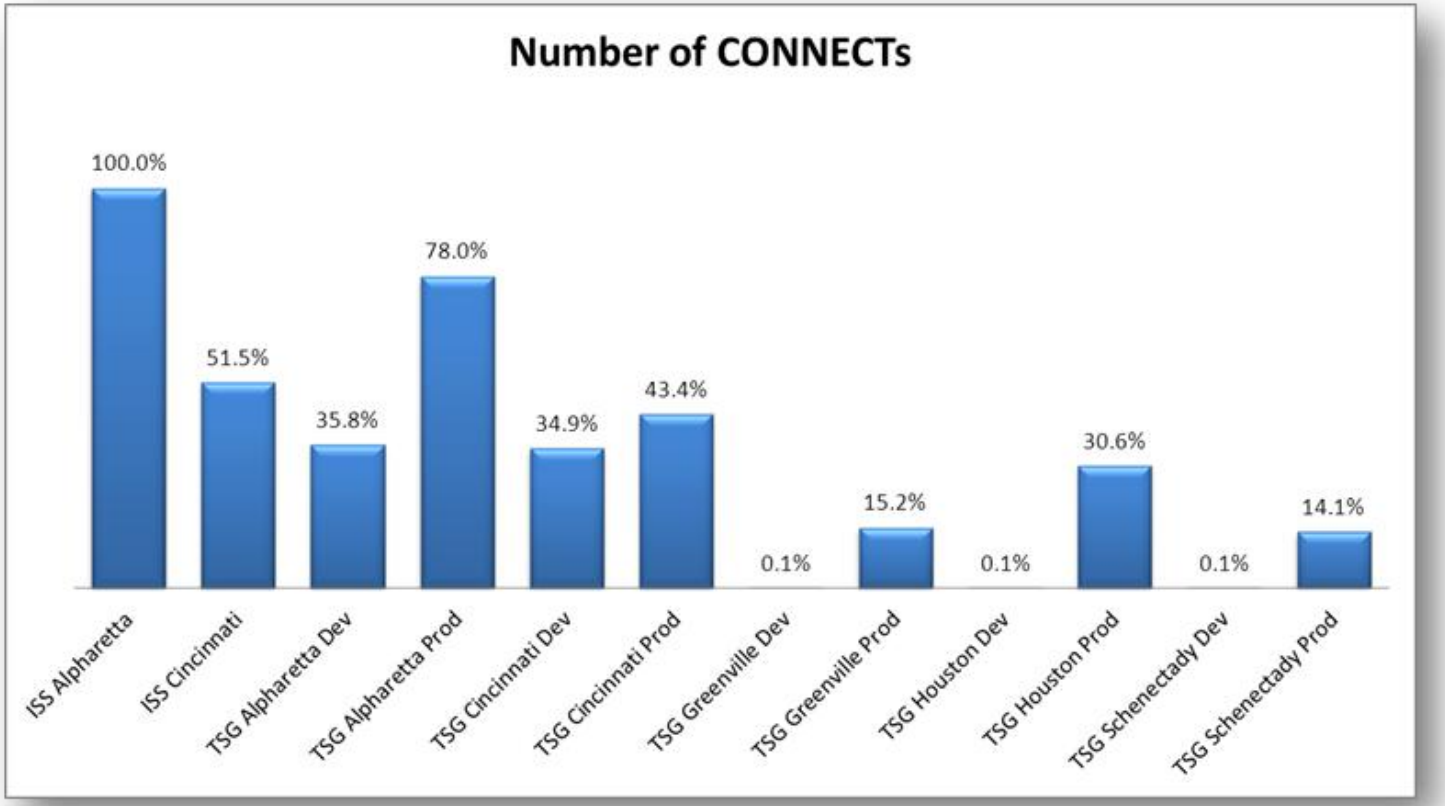


As you can see TSG's overall LDAP traffic is bigger than ISS' LDAP traffic, both in terms of SEARCHes and CONNECTs. We "won" the 3rd column though, unfortunately that's the "bad" column, the average number of requests which ended up having 0 results. In our environment this is 91% average, in TSG's environment that's 18%.

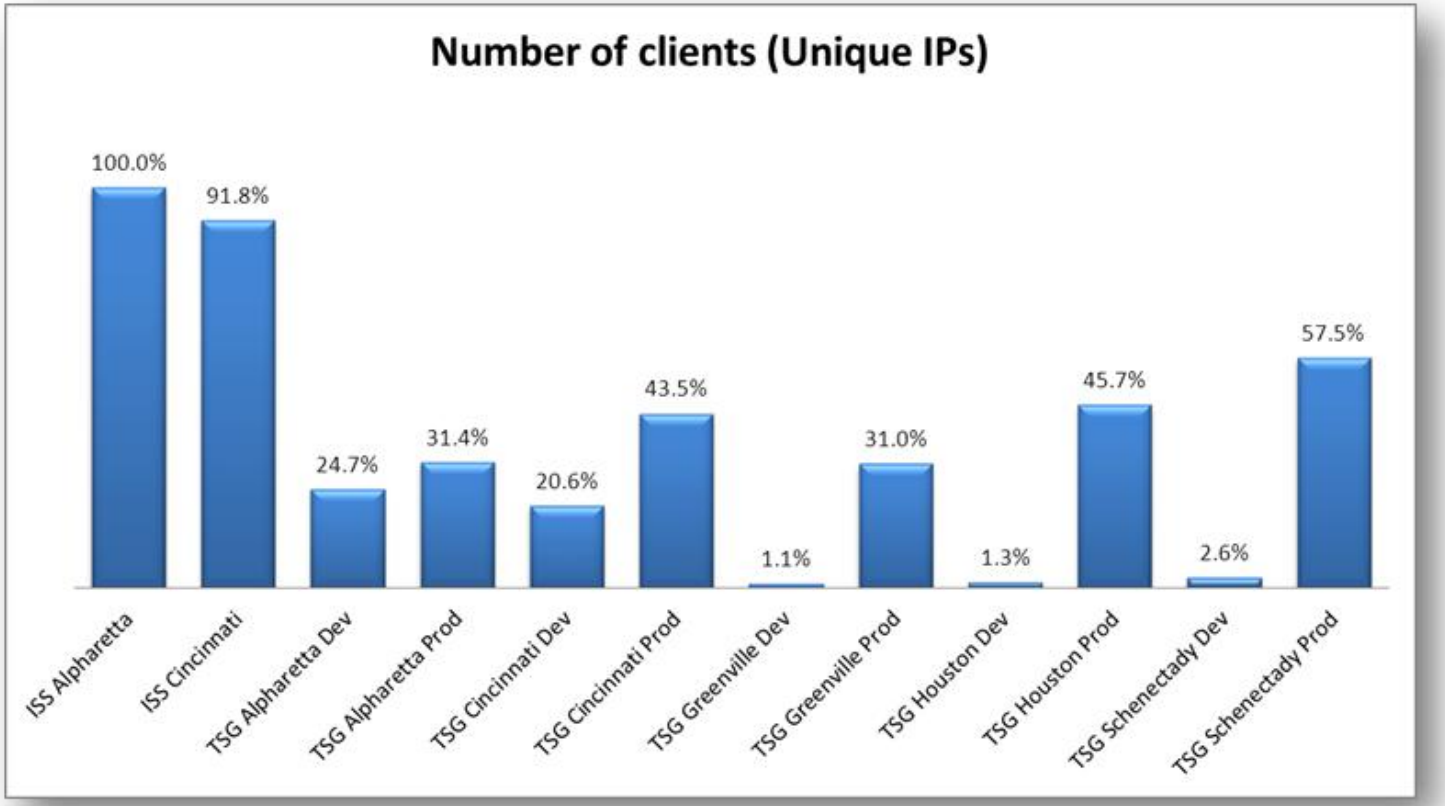
Next, let's see some details from the first set of graphs :



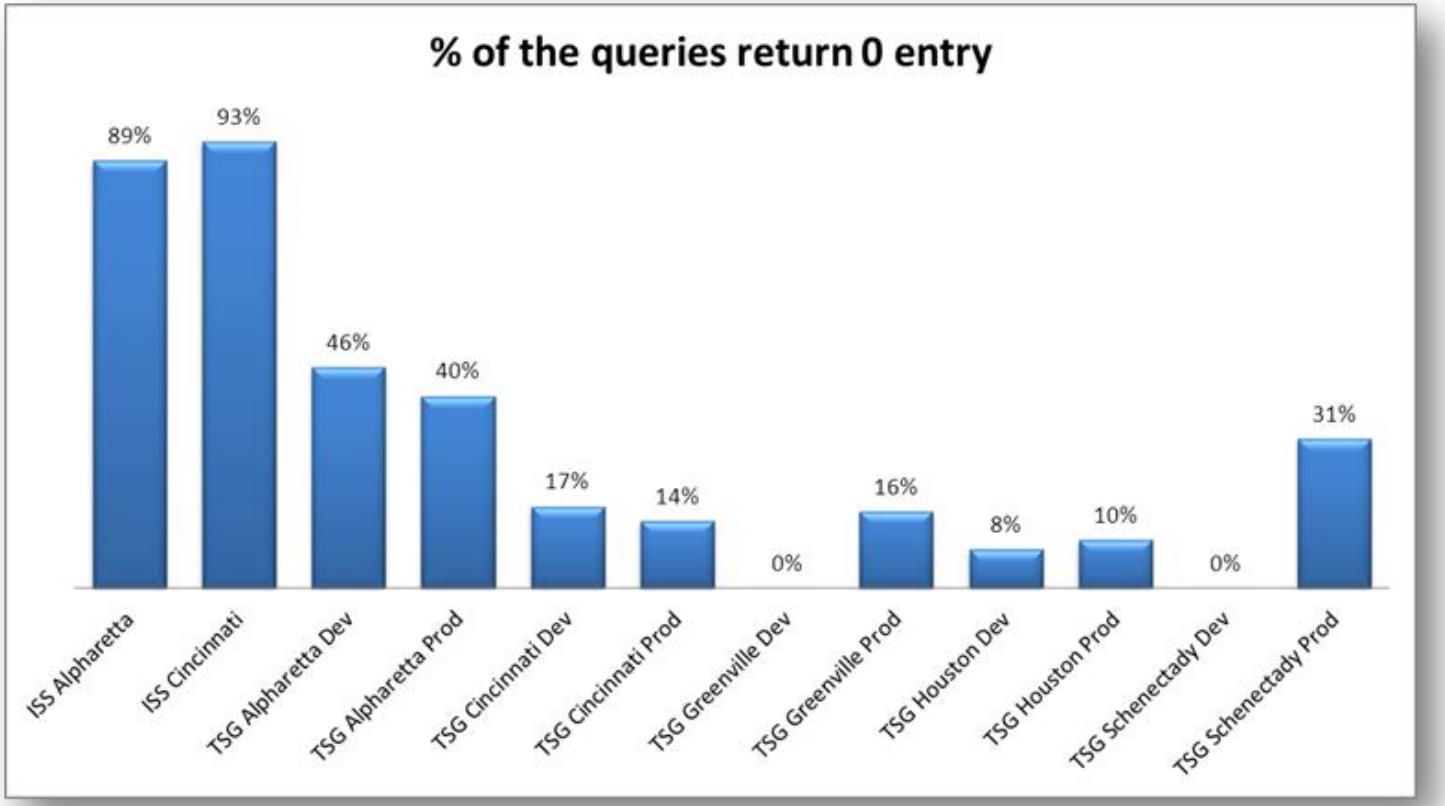
Next, number of CONNECTs :



number of clients (unique IPs) :

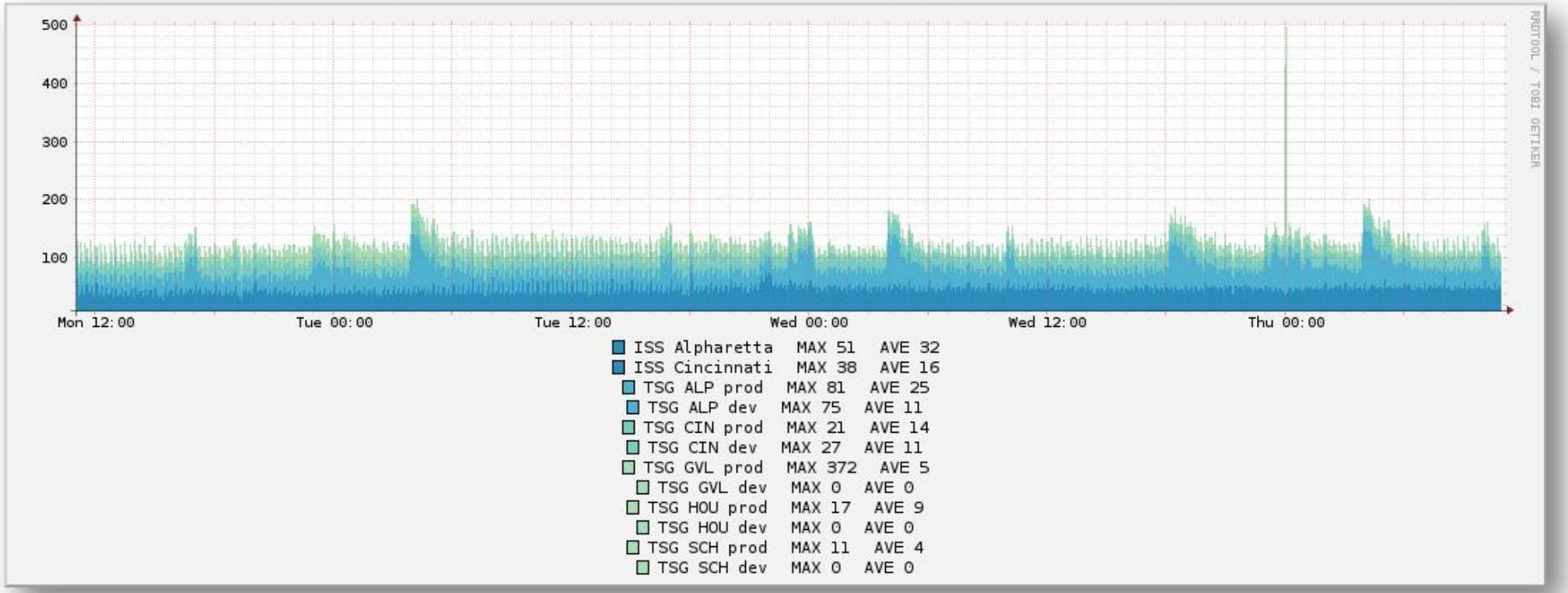


Percent of the requests return 0 entry :

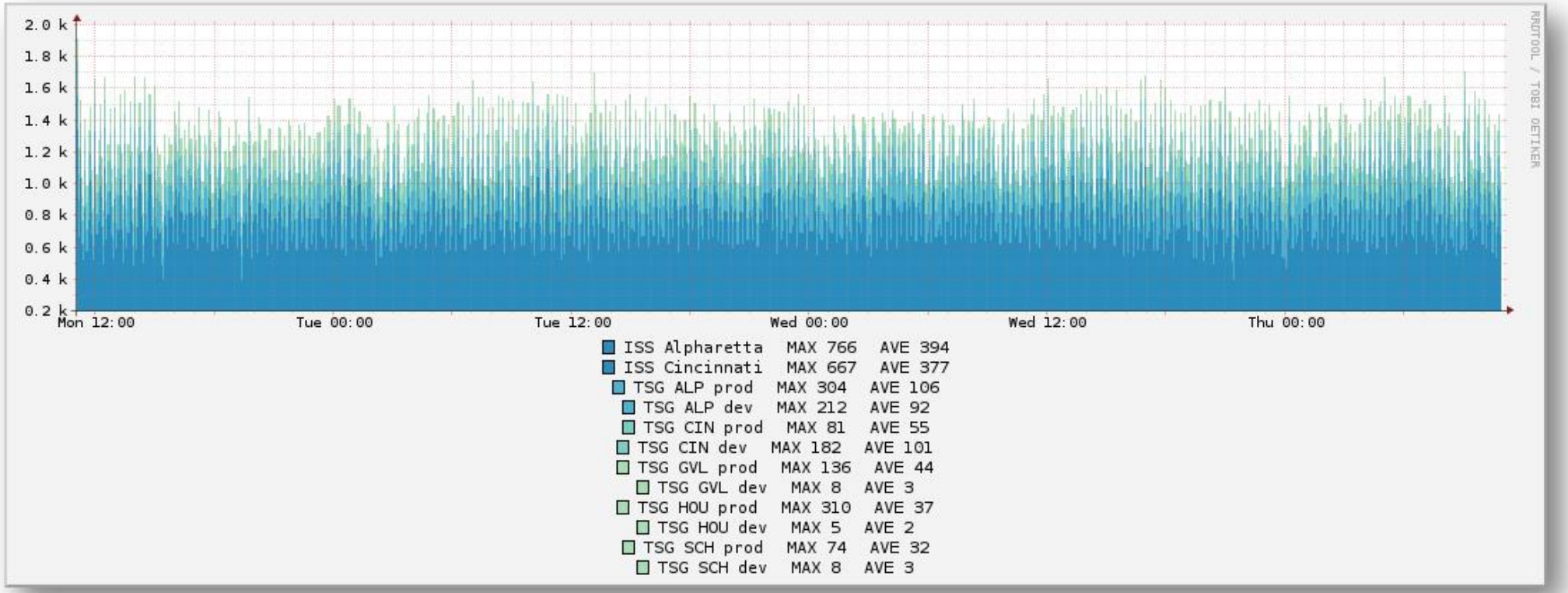


Now, **let's move on to the second set of graphs**, the graphs over time. Obviously these graphs are based on the exact same data I described at the beginning. At these graphs, I used 4 set of colors grouped by 1. ISS Alpharetta and ISS Cincinnati, 2. TSG Alpharetta Dev and Prod, 3. TSG Cincinnati Dev and Prod 4. rest of the TSG sites.

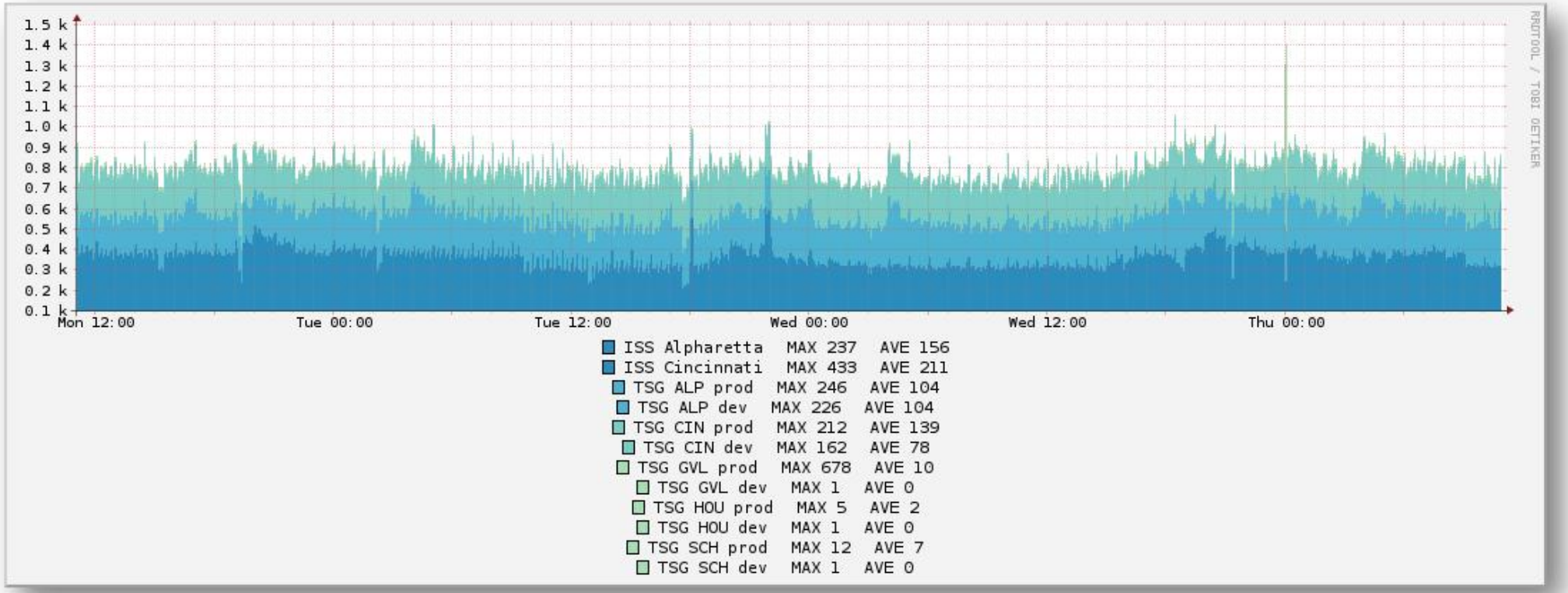
Connect per second, average :



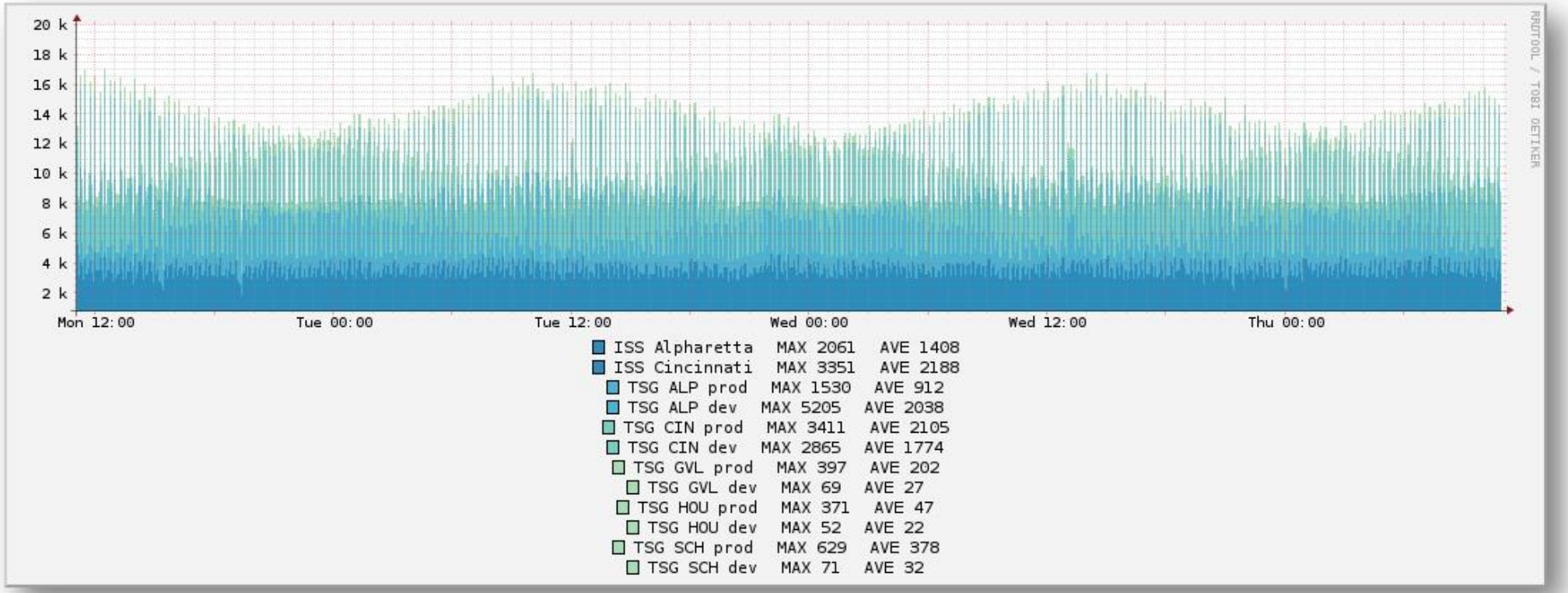
Connect per second, peak :



Operations per second, average :



Operations per second, peak :



Regards,
sendai