Viewing Network Usage Data

Using the command **`adb shell dumpsys netstats detail`** provides network usage statistics collected since the device booted up.

Input

To view network usage statistics, run the following command:

```
$ adb shell dumpsys netstats detail
```

Output

The set of information reported varies depending on the version of Android but consists of several sections:

- Active interfaces
- Active UID interfaces
- Dev statistics
- Xt statistics
- UID statistics (sometimes also called "Detailed UID statistics")
- UID tag statistics

Active interfaces/Active UID interfaces

Here is sample output for the active interfaces and active UID interfaces sections:

```
Active interfaces:
  iface=wlan0 ident=[{type=WIFI, subType=COMBINED, networkId="GoogleGuest"}]
Active UID interfaces:
  iface=wlan0 ident=[{type=WIFI, subType=COMBINED, networkId="GoogleGuest"}]
```

This shows network statistics for the whole device. In most cases, the information in these two section is the same.

Dev statistics/Xt statistics

Here is sample output for the Dev statistics section:

```
Dev stats:
  Pending bytes: 170775
  Complete history:
  ident=[[type=MOBILE_HIPRI, subType=COMBINED, subscriberId=311111...]] uid=-1 set=ALL tag=0x0
    NetworkStatsHistory: bucketDuration=3600000
      bucketStart=1406138400000 activeTime=3603995 rxBytes=19467 rxPackets=53 txBytes=7500 txPackets=61 operations=0
      bucketStart=1406142000000 activeTime=20730 rxBytes=25403 rxPackets=66 txBytes=9140 txPackets=74 operations=0
      bucketStart=1406145600000 activeTime=29161 rxBytes=9263 rxPackets=37 txBytes=5180 txPackets=38 operations=0
      bucketStart=1406149200000 activeTime=9054 rxBytes=12387 rxPackets=31 txBytes=4052 txPackets=35 operations=0
  ident=[[type=WIFI, subType=COMBINED, networkId="MySSID"]] uid=-1 set=ALL tag=0x0
    NetworkStatsHistory: bucketDuration=3600000
      bucketStart=1406138400000 activeTime=4811082 rxBytes=335913292 rxPackets=265144 txBytes=9729261 txPackets=11722
      bucketStart=1406142000000 activeTime=3513477 rxBytes=1193606876 rxPackets=956855 txBytes=29450792 txPackets=306
      bucketStart=1406145600000 activeTime=3297986 rxBytes=729381849 rxPackets=586396 txBytes=24247211 txPackets=2374
      bucketStart=1406149200000 activeTime=3580941 rxBytes=57168575 rxPackets=51610 txBytes=5291167 txPackets=29260 o
  ident=[[type=WIFI, subType=COMBINED, networkId="MySecondSSID"]] uid=-1 set=ALL tag=0x0
    NetworkStatsHistory: bucketDuration=3600000
```

UID stats

```
UID stats:
  Pending bytes: 744
```

```
Complete history:
ident=[[type=MOBILE_SUPL, subType=COMBINED, subscriberId=311111...], [type=MOBILE, subType=COMBINED, subscriberId=3
  NetworkStatsHistory: bucketDuration=7200000
    bucketStart=1406167200000 activeTime=7200000 rxBytes=4666 rxPackets=7 txBytes=1597 txPackets=10 operations=0
ident=[[type=WIFI, subType=COMBINED, networkId="MySSID"]] uid=10007 set=DEFAULT tag=0x0
  NetworkStatsHistory: bucketDuration=7200000
    bucketStart=1406138400000 activeTime=7200000 rxBytes=17086802 rxPackets=15387 txBytes=1214969 txPackets=8036 op
    bucketStart=1406145600000 activeTime=7200000 rxBytes=2396424 rxPackets=2946 txBytes=464372 txPackets=2609 opera
    bucketStart=1406152800000 activeTime=7200000 rxBytes=200907 rxPackets=606 txBytes=187418 txPackets=739 operatio
    bucketStart=1406160000000 activeTime=7200000 rxBytes=826017 rxPackets=1126 txBytes=267342 txPackets=1175 operat
```

Interpreting the results

To find the UID for your application, you can run this command: **`adb shell dumpsys package <your package name>`**. Then look for the line labeled **`userId`**.

In our example, suppose we are trying to find network usage for our app “com.example.myapp”. We would run the following command:

```
$ adb shell dumpsys package com.example.myapp | grep userId

    userId=10007 gids=[3003, 1028, 1015]
```

Looking at the dump above, we look for lines that have uid=10007. Two such lines exist, the first indicating a mobile connection, and the second a Wi-Fi connection. Underneath each line, the number of bytes and packets sent and received can be seen, bucketed into two-hour windows.

A bit more explanation:

- `set=DEFAULT` indicates foreground network usage, while `set=BACKGROUND` indicates background usage. `set=ALL` implies both.
- `tag=0x0` indicates the socket tag associated with the traffic.
- `rxBytes` and `rxPackets` represent received bytes and received packets in the corresponding time interval.
- `txBytes` and `txPackets` represent sent (transmitted) bytes and sent packets in the corresponding time interval.

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