DATA CENTER CHART ANALYSIS

July 2012

Monthly VDC Bandwidth Graphs – July 2012

Internet Bandwidth – VDC

LDBVDC1 - Internet - Traffic - Gi0/0

RRDTOOL / TOBI OETIKER

bits per second

10 M
8 M
6 M
4 M
2 M
0

Week 27   Week 28   Week 29   Week 30

From 2012/07/01 00:00:00 To 2012/07/31 23:59:00

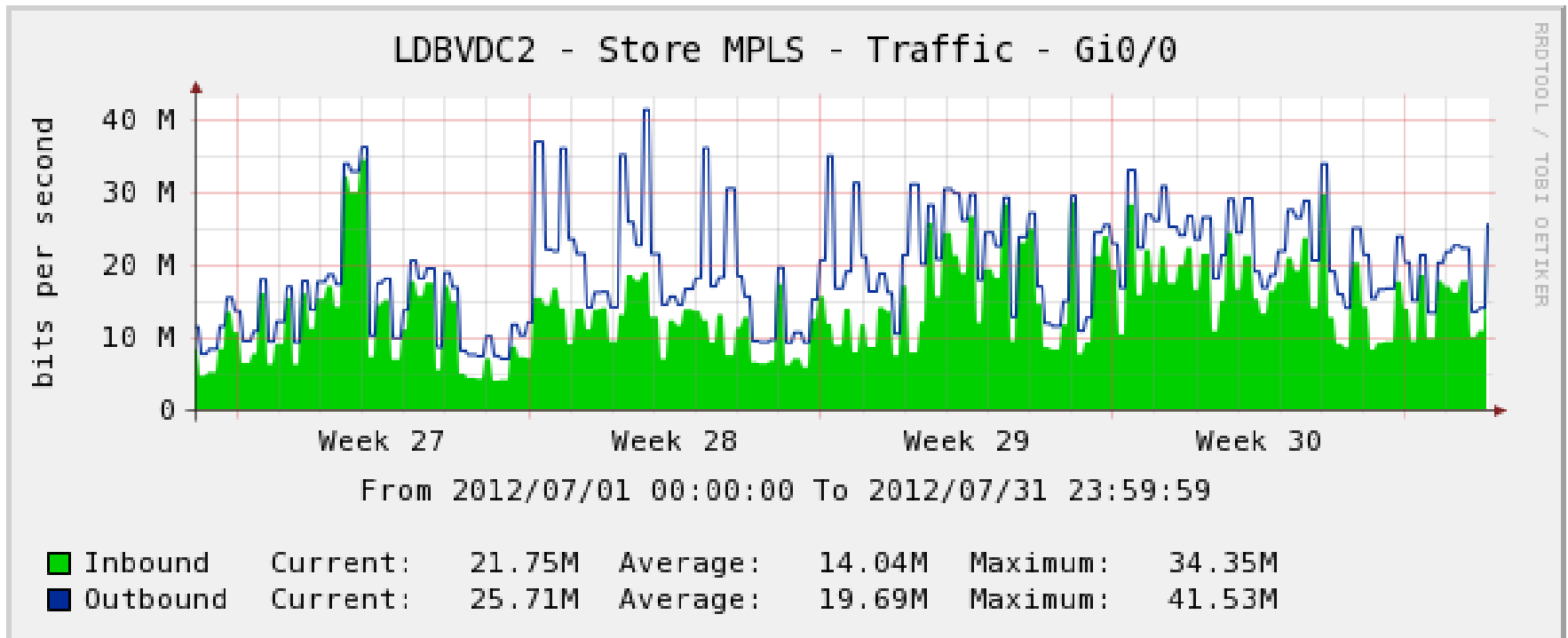| ■ Inbound | Current: | 1.07M | Average: | 2.69M | Maximum: | 11.82M |
| ■ Outbound | Current: | 145.91k | Average: | 339.95k | Maximum: | 1.10M |
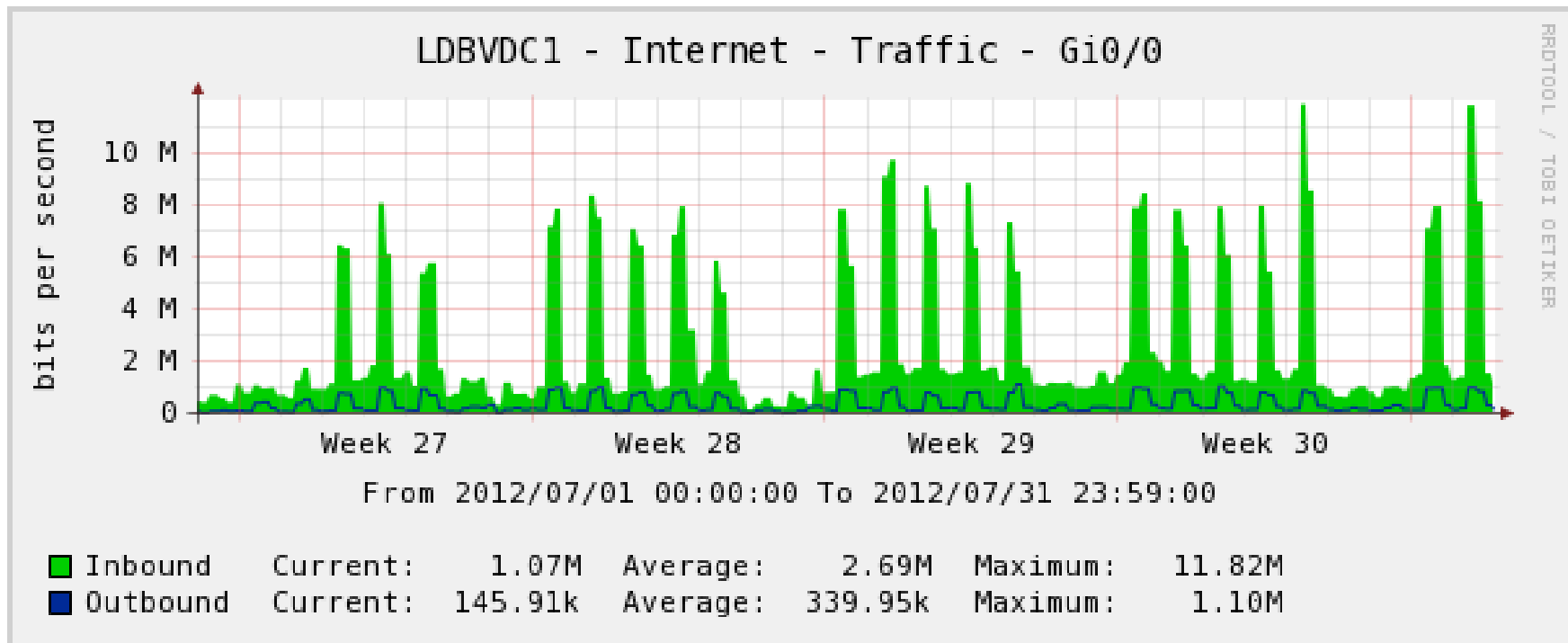
Summary: Graphical view of traffic going through Head Office to the Internet. The maximum traffic allowed is 20Mbs.

Observation: During HO core hours (8:00 to 4:30), Internet link was not as active due to people being on vacation. However it was sustained at 45% of the available bandwidth. Only twice the bandwidth has reached more than 10 MB/ second.

Recommendation: Not applicable

# Monthly VDC Bandwidth Graphs – July 2012

Bandwidth between HO and Stores


```
                  LDBVDC2 - Store MPLS - Traffic - Gi0/0

     40 M
b
i
t   30 M
s

p   20 M
e
r
    10 M
s
e
c
      0
          Week 27        Week 28        Week 29        Week 30

          From 2012/07/01 00:00:00 To 2012/07/31 23:59:59

   ■ Inbound   Current:    21.75M  Average:    14.04M  Maximum:    34.35M
   ■ Outbound  Current:    25.71M  Average:    19.69M  Maximum:    41.53M
```

Summary: Graphical view of traffic going through Stores to Head Office via Internet.

Observation: There was high utilization at the beginning of the month for inbound traffic.

Recommendation: Not applicable

Monthly VDC Bandwidth Graphs – July 2012

Bandwidth used for Email, DNS and any Government websites
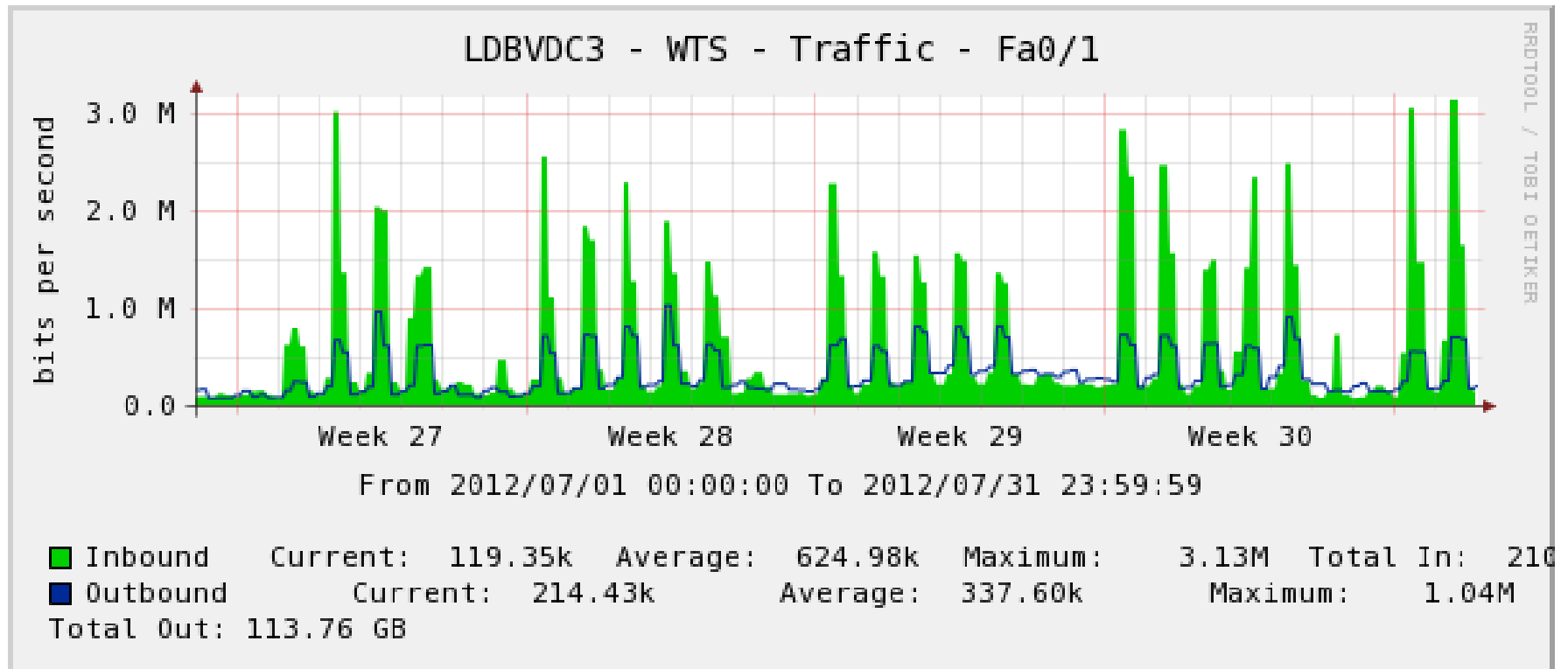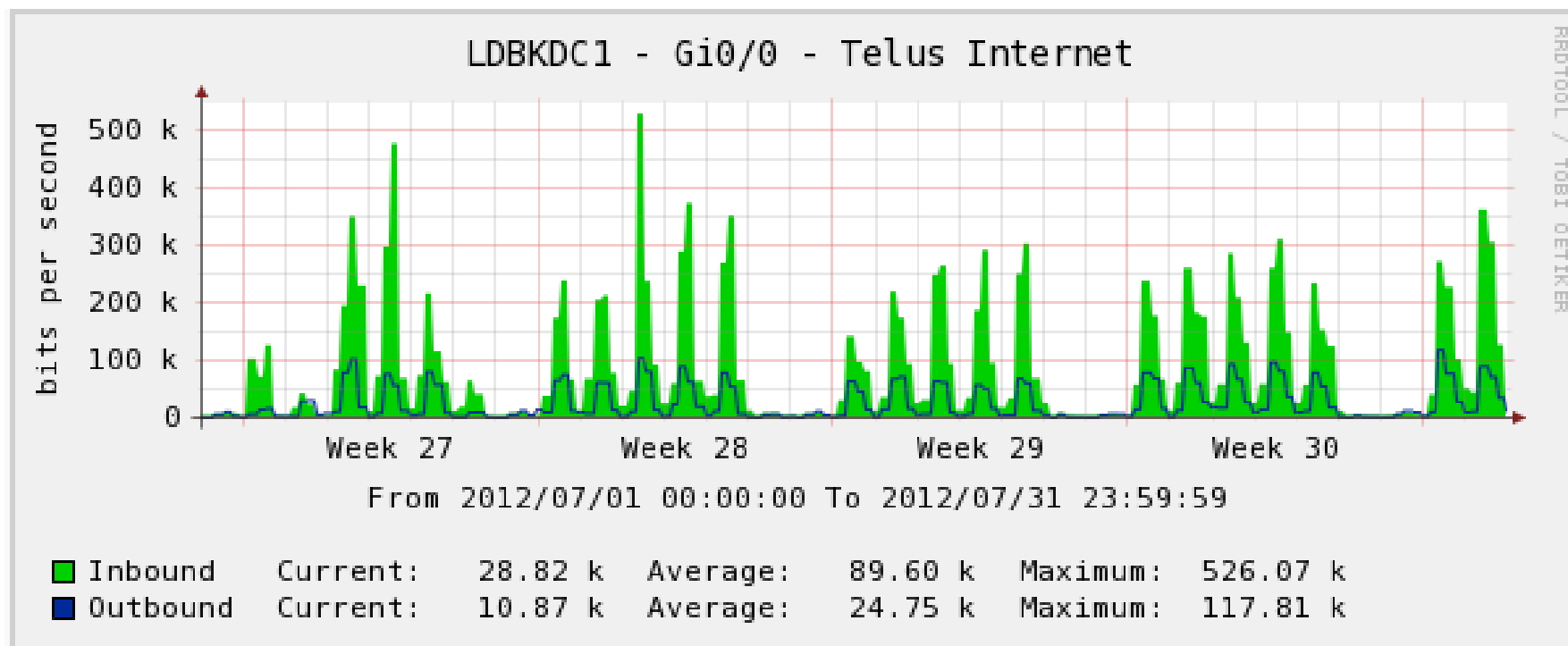

Summary: Graphical view of traffic going through WTS to Head Office via Internet.

Observation: Network utilization of the service above is deemed working within normal parameters.

Recommendation: Not applicable

Monthly KDC Bandwidth Graphs – July 2012

Internet Bandwidth – KDC

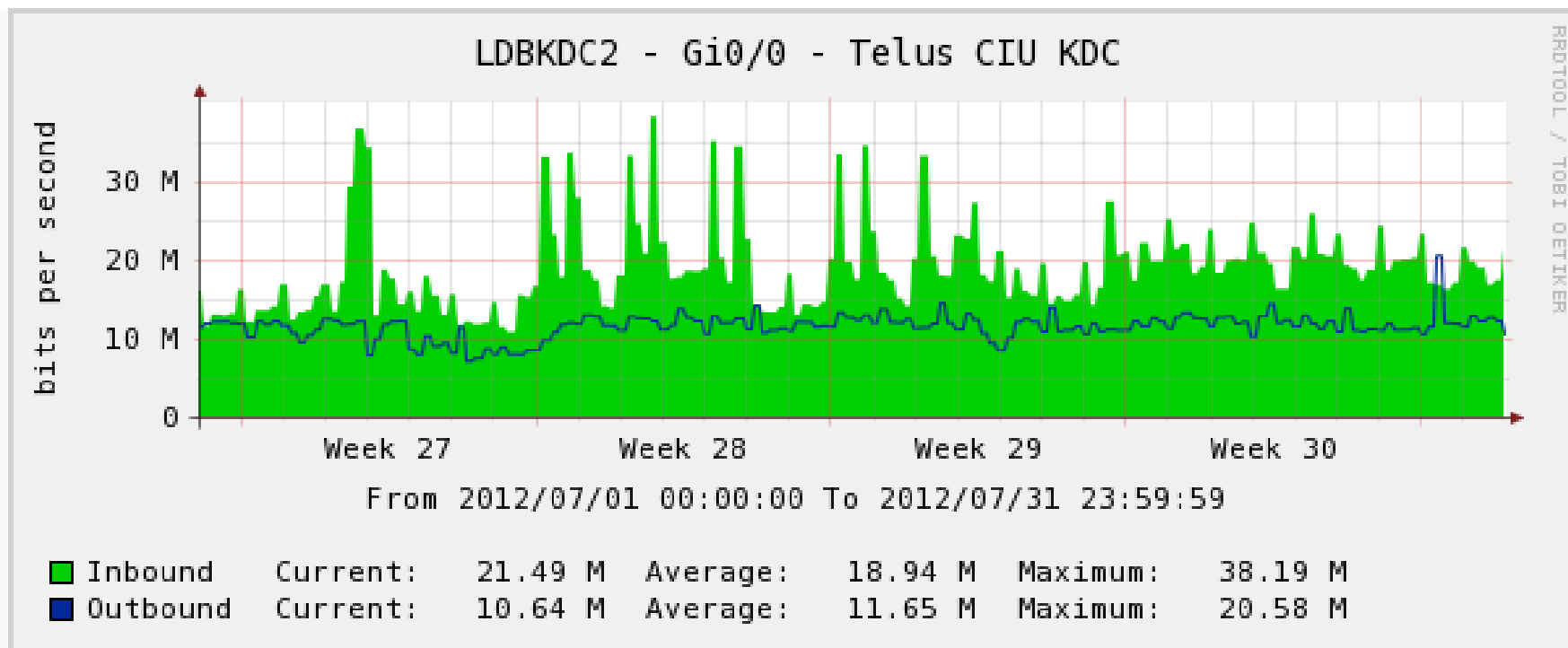
Summary: Graphical view of traffic going through KDC to the Internet.

Observation: Minimal use

Recommendation: Not applicable

# Monthly KDC Bandwidth Graphs – July 2012

Bandwidth between KDC and Stores

LDBKDC2 - Gi0/0 - Telus CIU KDC

RRDTOOL / TOBI OETIKER

bits per second

30 M
20 M
10 M
0

Week 27   Week 28   Week 29   Week 30

From 2012/07/01 00:00:00 To 2012/07/31 23:59:59

■ Inbound	Current:	21.49 M	Average:	18.94 M	Maximum:	38.19 M
■ Outbound	Current:	10.64 M	Average:	11.65 M	Maximum:	20.58 M

Summary: Graphical view of traffic going through Stores to KDC via Internet.

Observation: Solid green of inbound traffic means stores were busy sending orders and sales data back HO but otherwise no significant problems occurred during the month.

Recommendation: Not applicable

Monthly KDC Bandwidth Graphs – July 2012

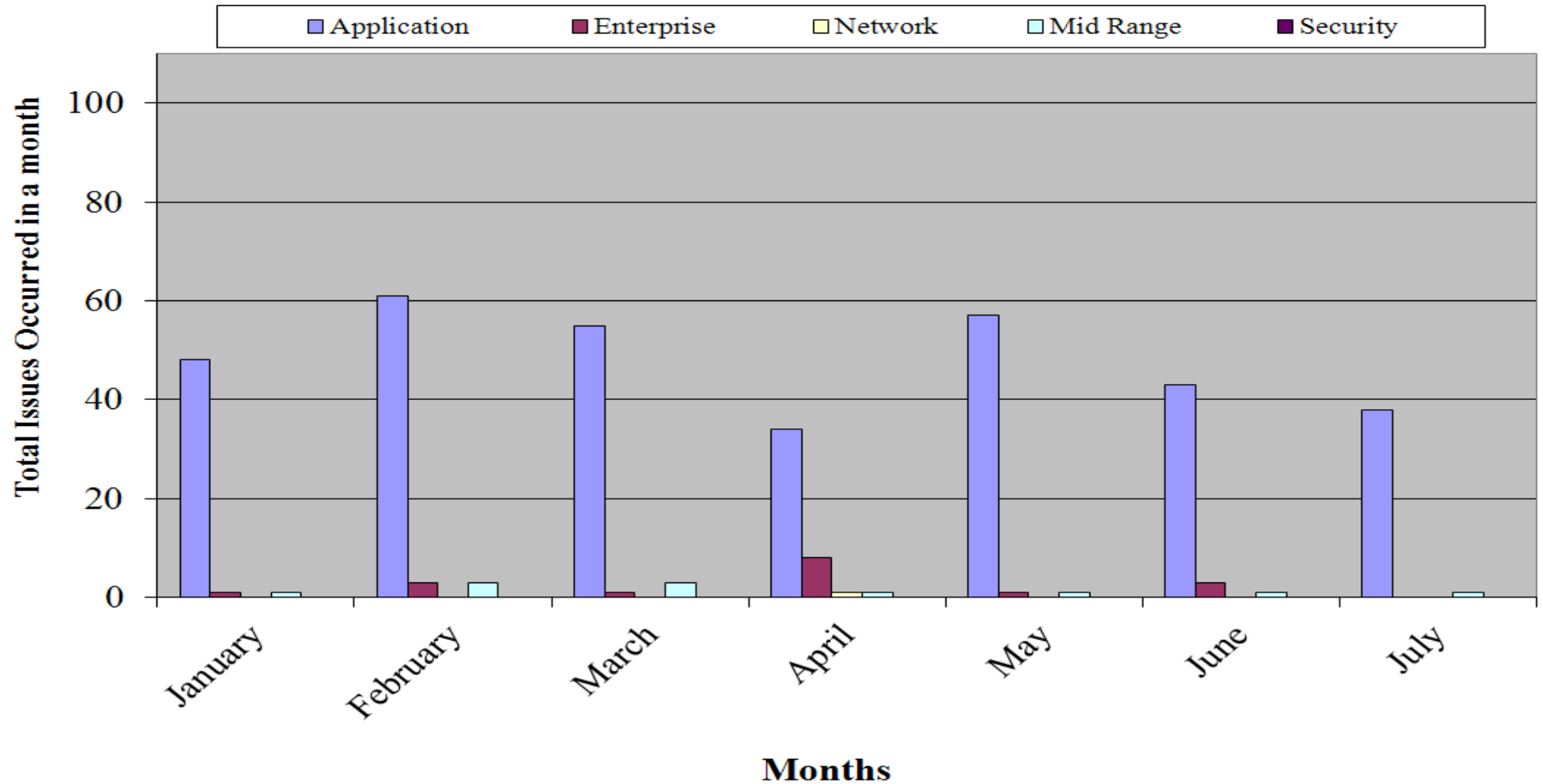## Bandwidth used for Email, DNS, and KDC via WTS
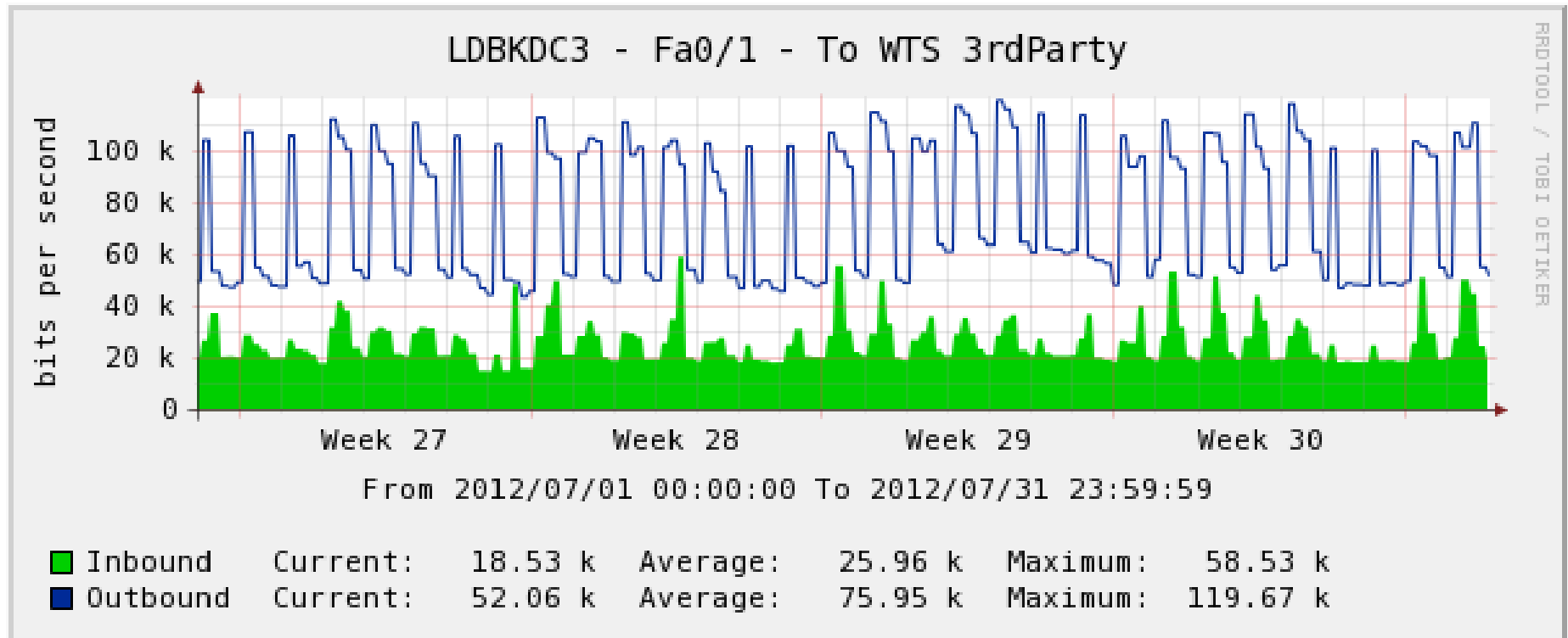
Summary: Graphical view of traffic going through KDC to WTS via Internet.

Observation: Minimal use

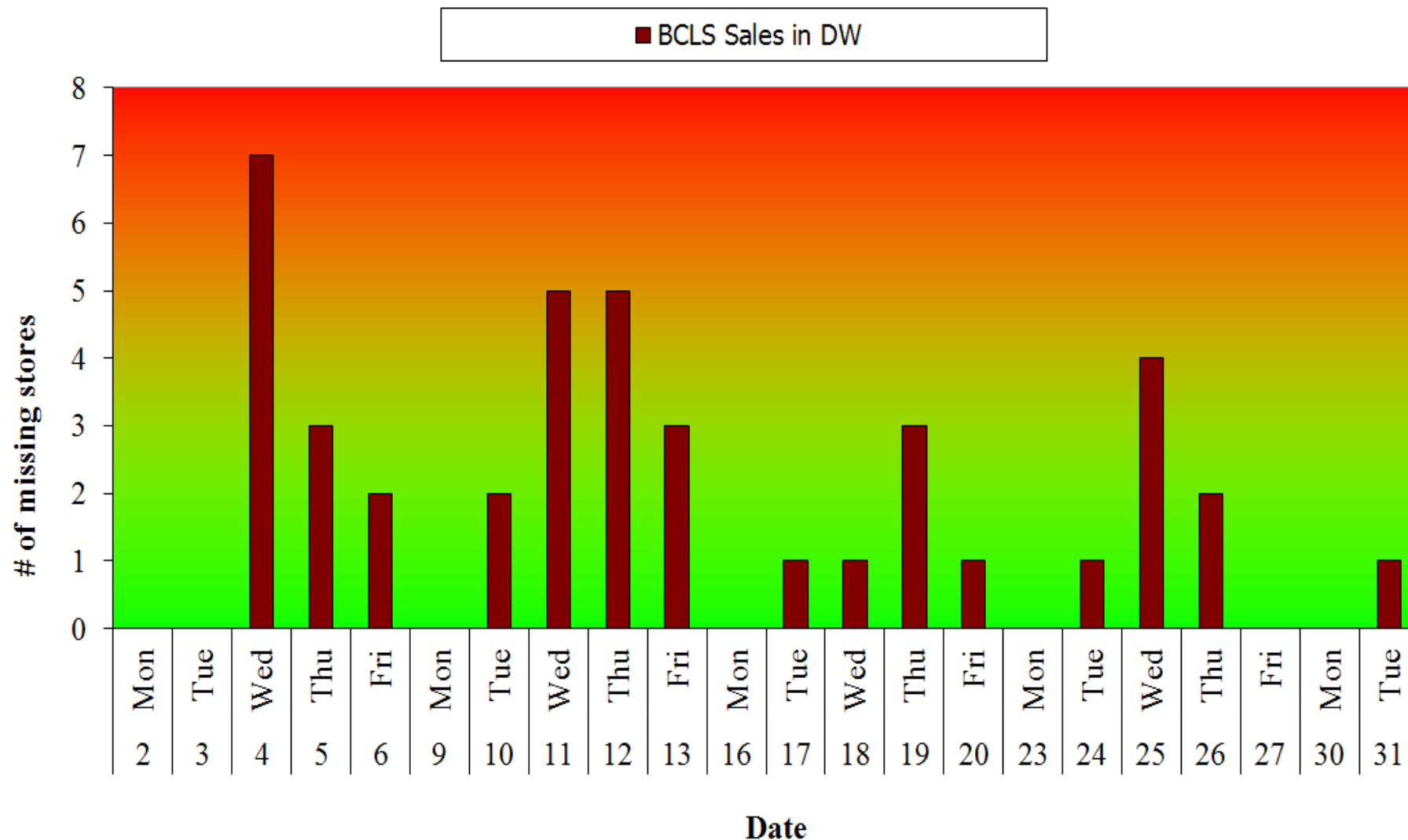**Recommendation:**   Not applicable

Data Centre Production Issues 2012

Total Issues Occurred in a month

Legend: ■ Application   ■ Enterprise   □ Network   □ Mid Range   ■ Security

Months

Summary: High level graphical view of monthly production issues from January 2012 to July 2012. Input comes from Operations daily status report.

Observation: Majority are application issues of which 36% are Autosys jobs and 48% are run away process (see BMC tickets for more information) for the month of July.

Recommendation: Not applicable
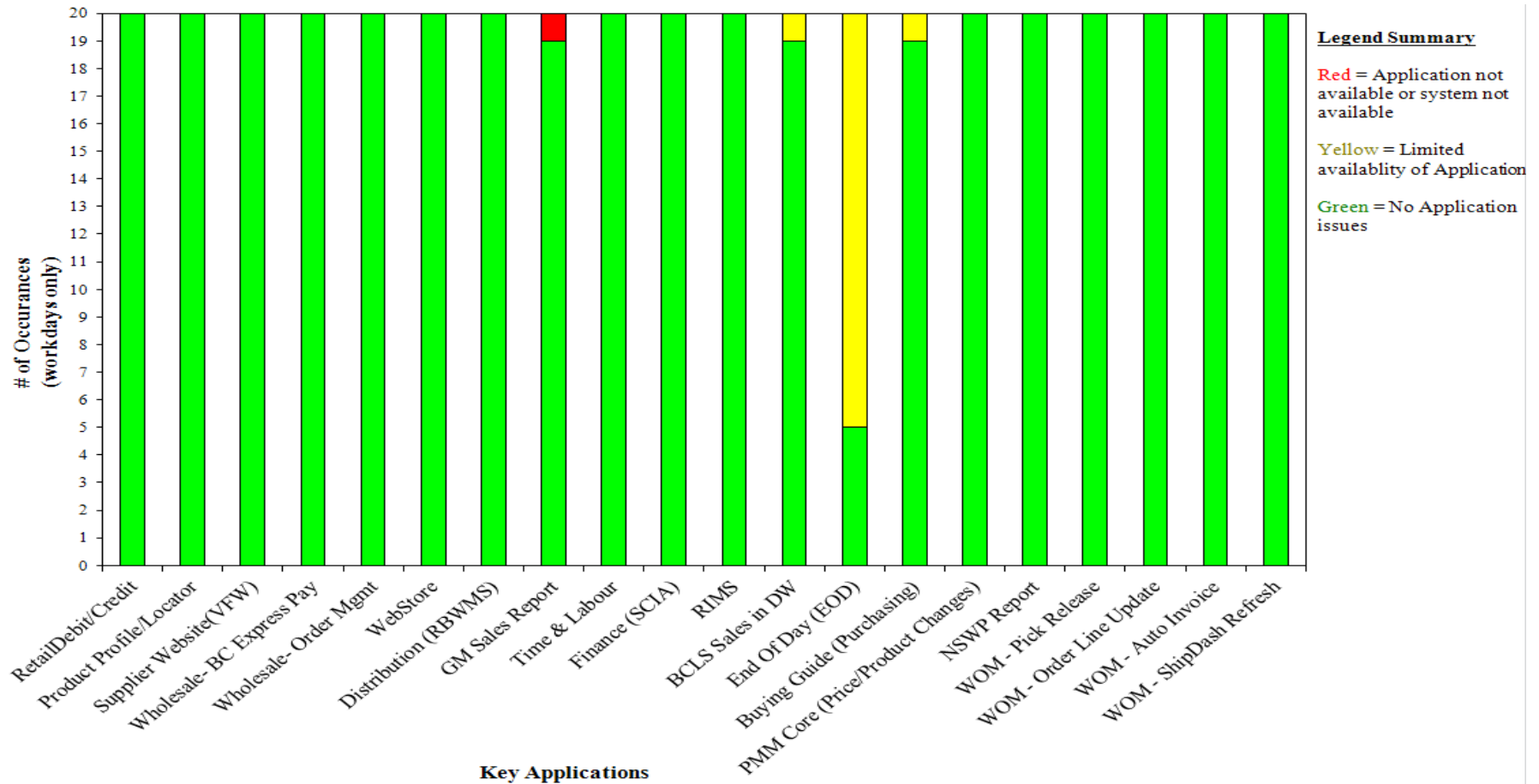
Sales – Finance Data Availability - July 2012

Summary: Graphical view of transmitted BCLS Stores Financial Sales Data to Head Office in Data Warehouse.

Observation: July was a month where Data Warehouse had no major issues relating to Sales Reporting

Recommendation: Not applicable
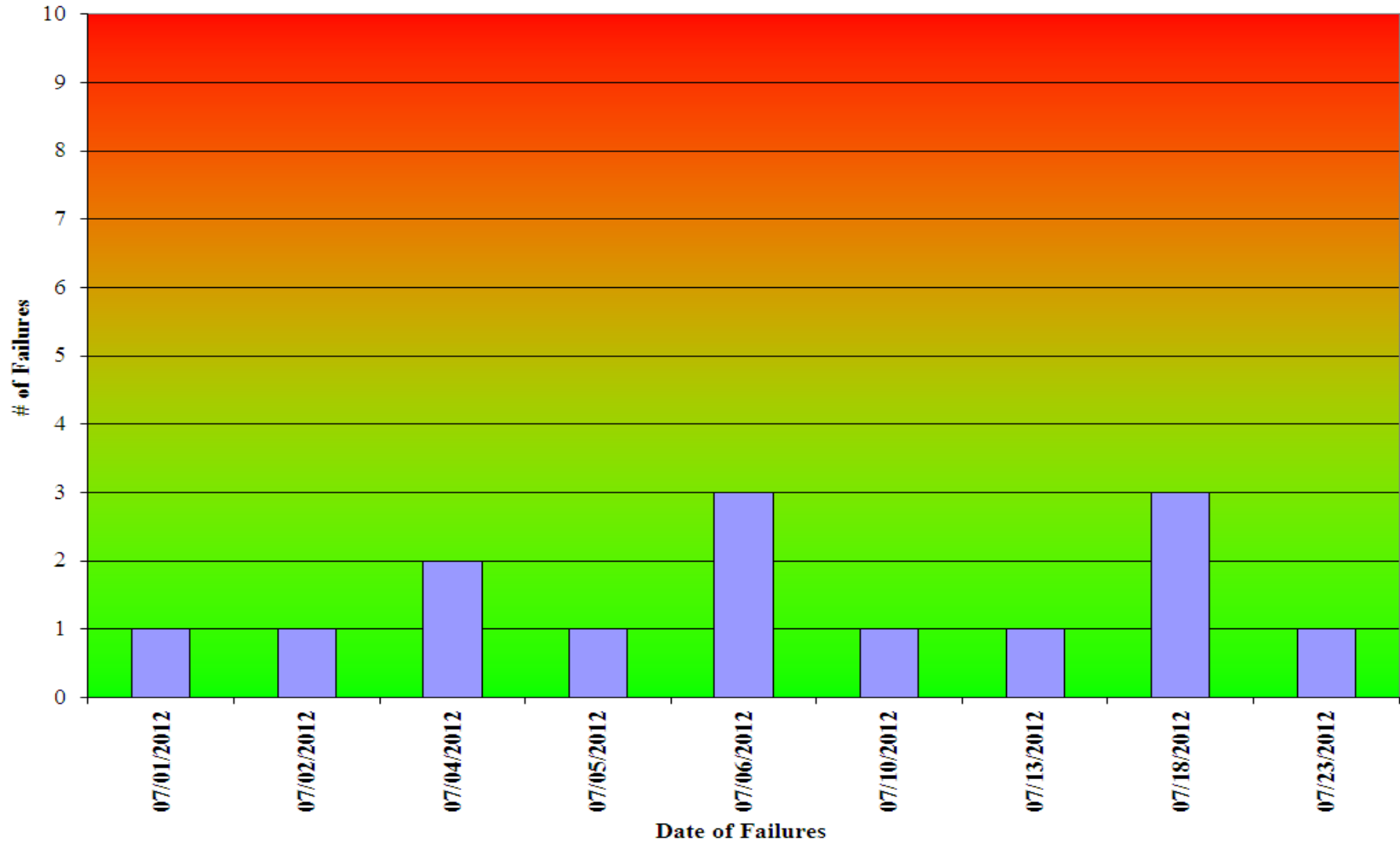
Daily Availability of Business Application – July 2012

Summary: High level graphical view of Business Applications availability.

Observation: On July 10 there was an Autosys issue that effected GM Sales Report. Please refer to BMC # 491305 for further details.

Recommendation: Not applicable

Autosys Jobs failed per day – July 2012

# of Failures (y-axis: 0 to 10)

Date of Failures (x-axis): 07/01/2012, 07/02/2012, 07/04/2012, 07/05/2012, 07/06/2012, 07/10/2012, 07/13/2012, 07/18/2012, 07/23/2012
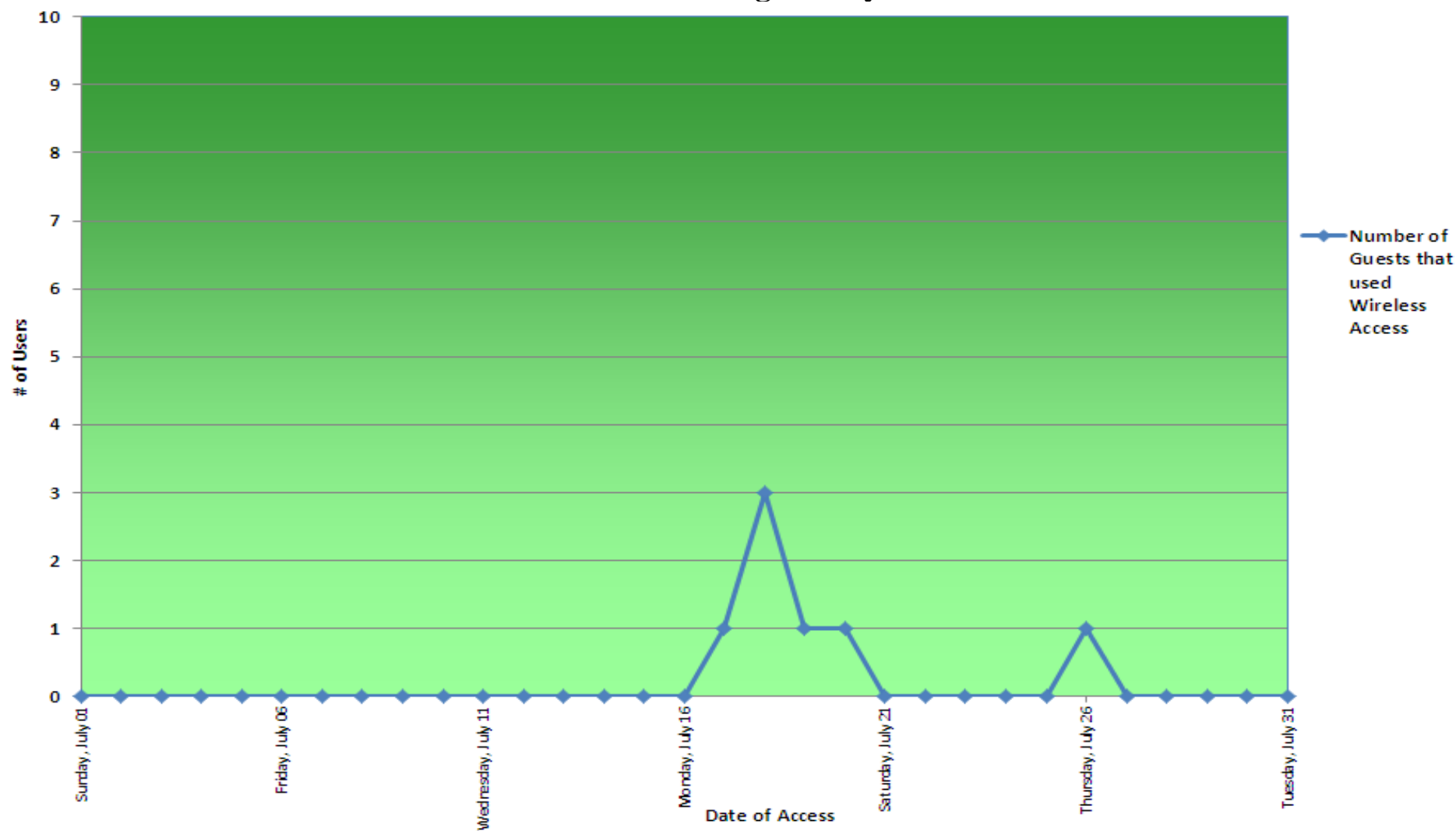
Summary: High level graphical view of Production Autosys Job failures for the month of July 2012.

Observation: On July 10 there was an Autosys issue that occurred, please refer to BMC # 491305 for further details.

Recommendation: Not applicable

Guest Wireless Network Usage – July 2012

Summary: High level graphical view of guest users using the Wireless Network for the month of July 2012.

Observation: This was the first month of starting this new service to user for wireless access.

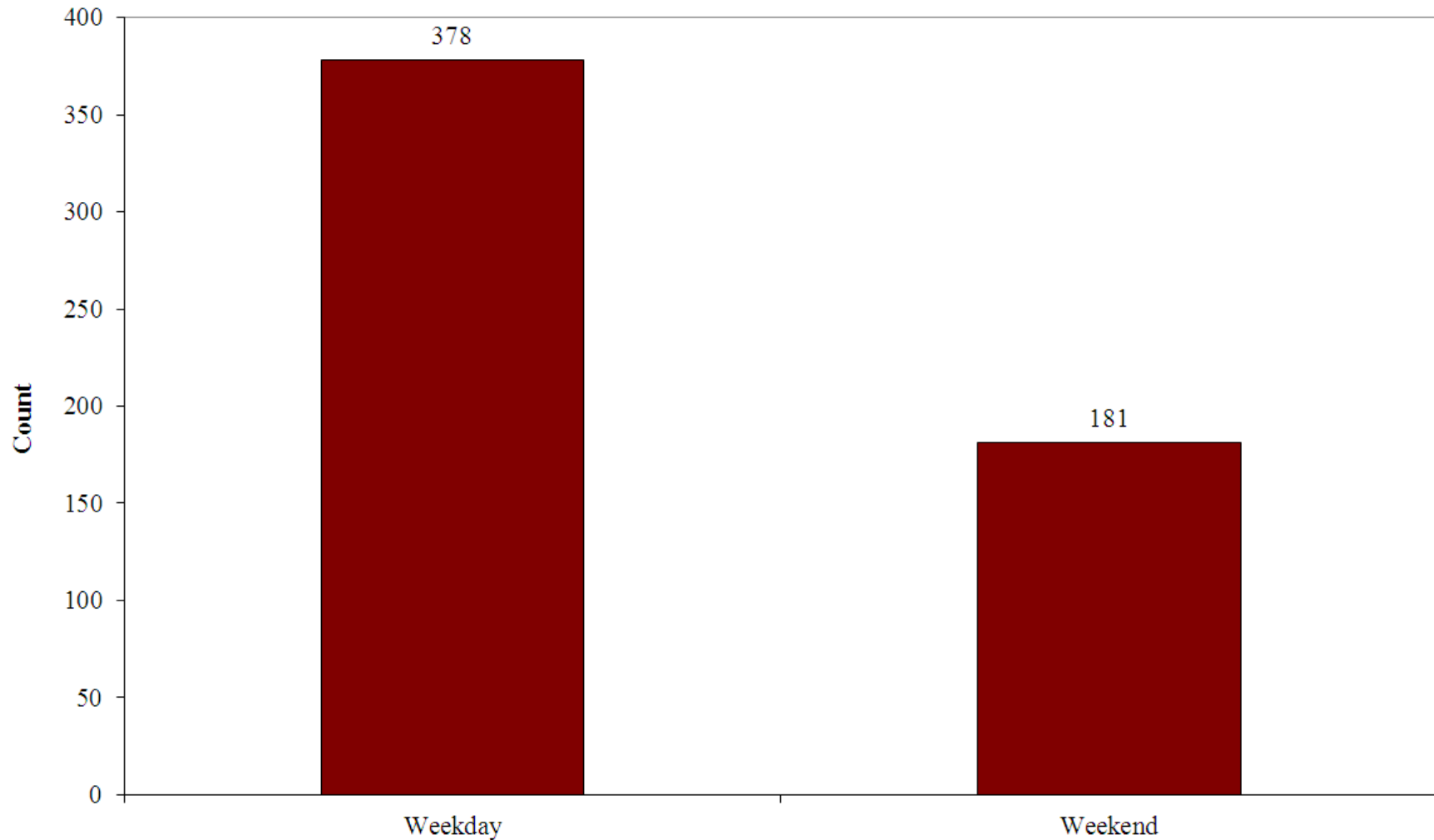**Recommendation:** Not applicable

WebStore Availability – July 2012

Summary: High level graphical view of Webstore's Availability through Orion access for the month of July 2012.

Observation: There were no issues for Webstore for the month of July.

Recommendation: Not applicable

Remote Access on Weekday vs. Weekend – July 2012
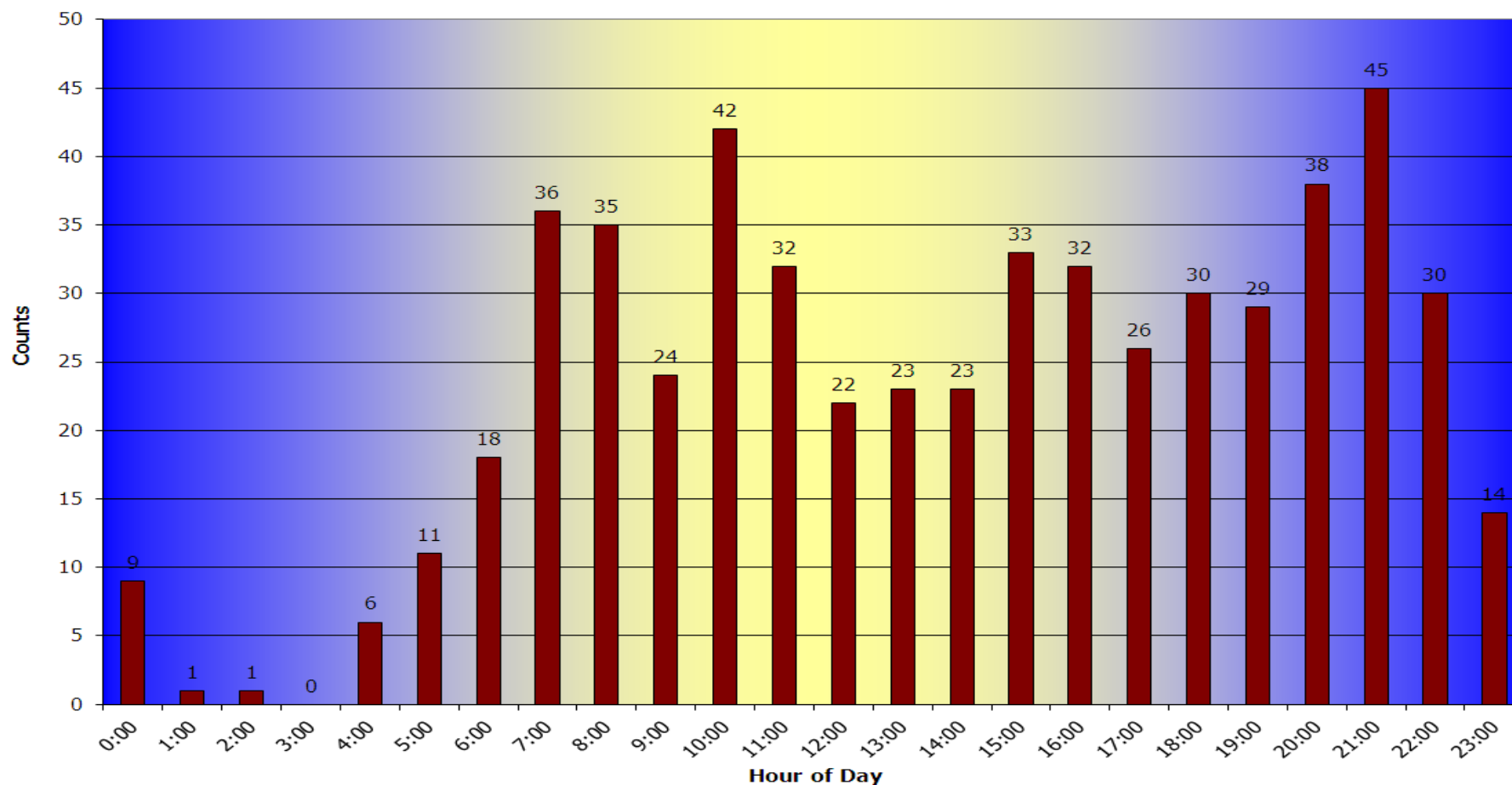

* Note: Weekends includes Stat holidays

Summary: High level weekday and weekend graphical view of Users remotely accessing Head Office resources.

Observation: More people accessing Head Office resources during the Weekday versus Weekend in the month of July.

Recommendation: Not applicable

Remote Access by Hour of Day – July 2012

Login by Connectra

Summary: High level graphical view of Users remotely accessing Head Office resources shown in hours of the day for the month of July 2012.
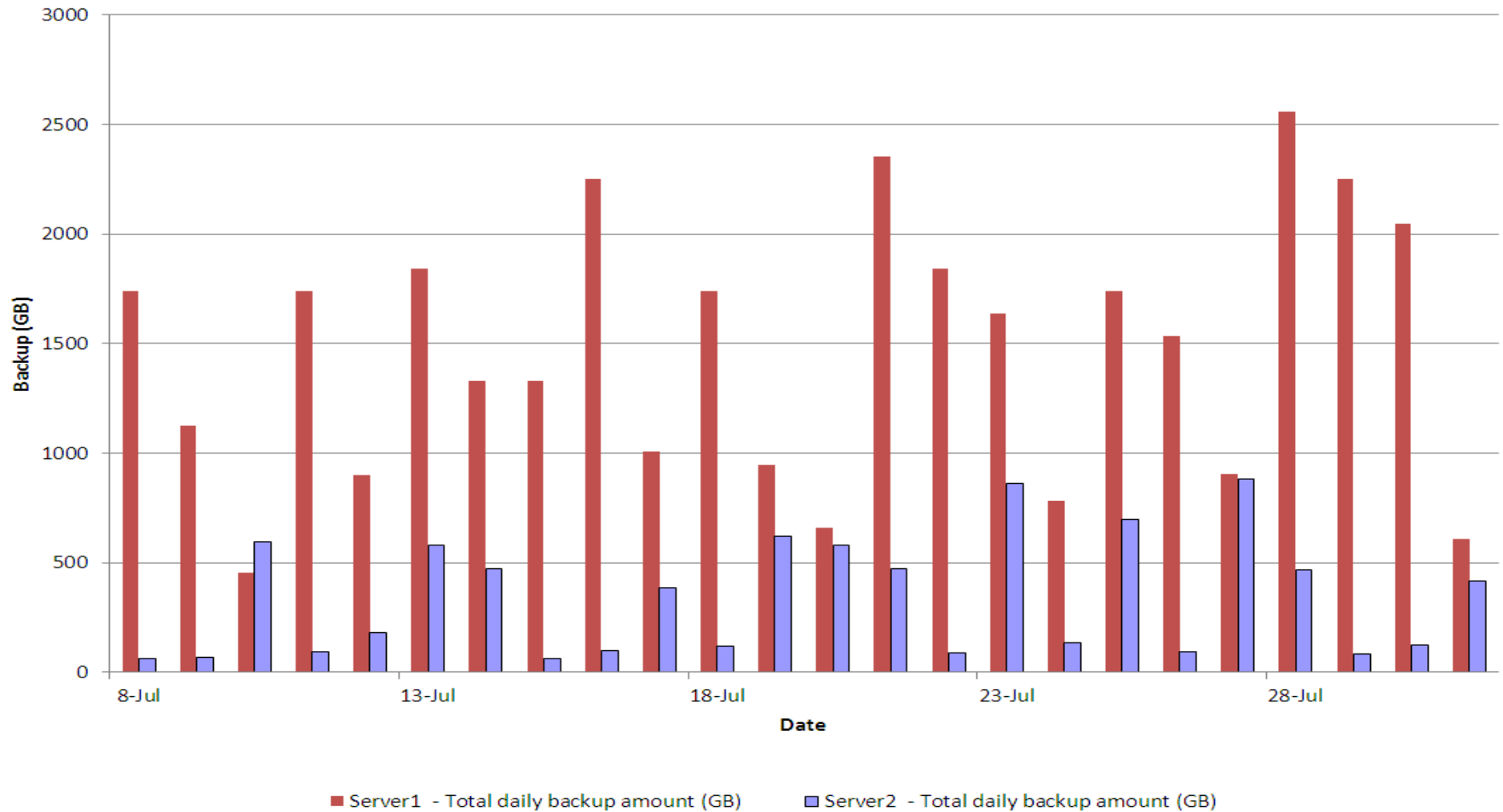
Observation: More people accessing Head Office resources in the late evening (3pm – 10pm) versus in the morning (between 7am – 11am). *** Note: Currently capacity for concurrent users is 50.

Recommendation: Not applicable

Total Daily Backup Amount (GB) – July 2012

Legend: Server1 - Total daily backup amount (GB)   Server2 - Total daily backup amount (GB)

Summary: High level graphical view graphical view of TSM Daily Backup for the month of July.
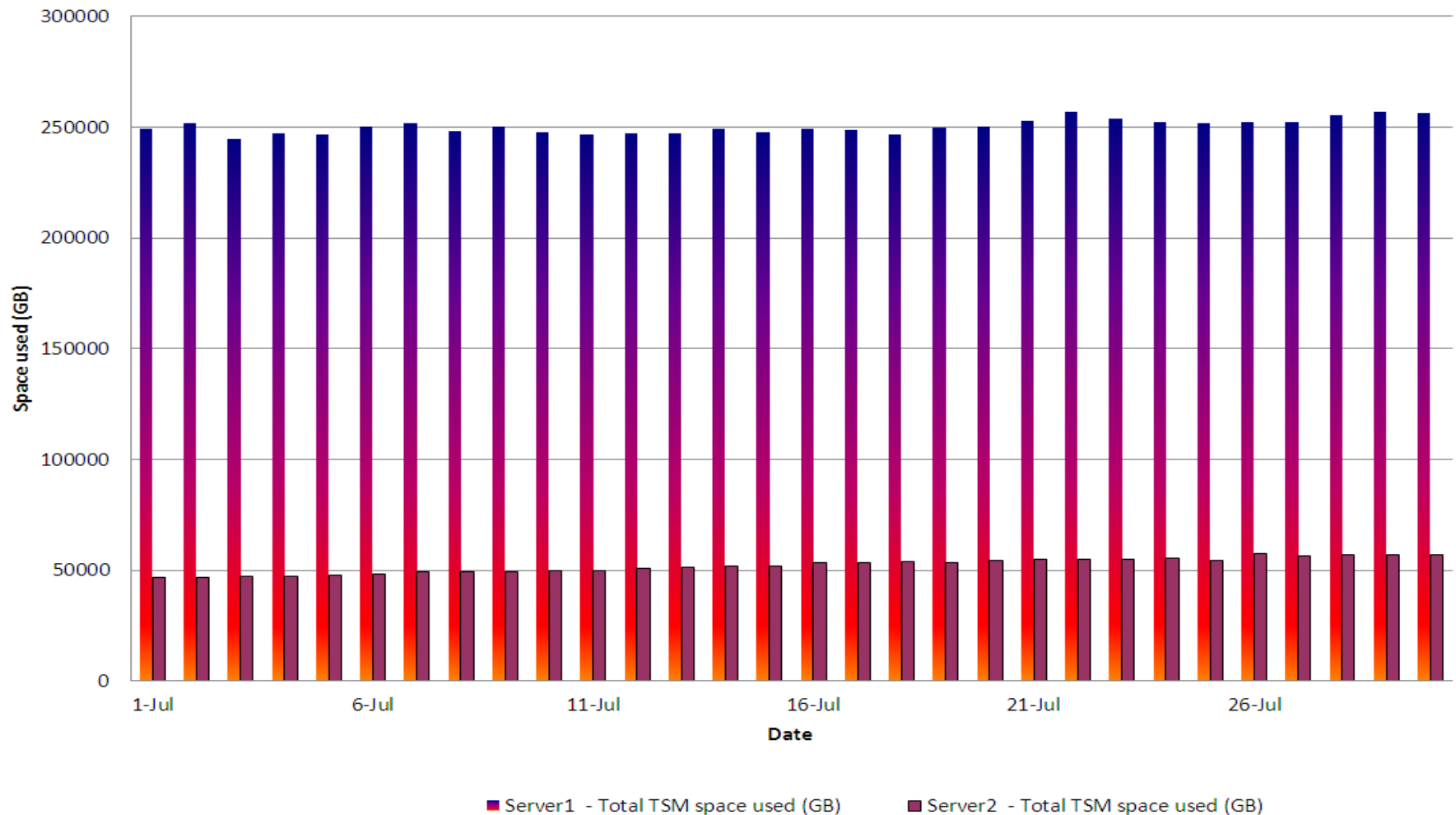
Observation: July 28th – over 2.5TB of SAN storage data was backed up on TSM. 1.5TB of SAN storage as transitional data constantly increases/decreases as data is migrated to tape.

Recommendation: Not applicable

Total TSM Space Used (GB) – July 2012

Legend: ■ Server1 - Total TSM space used (GB)   ■ Server2 - Total TSM space used (GB)

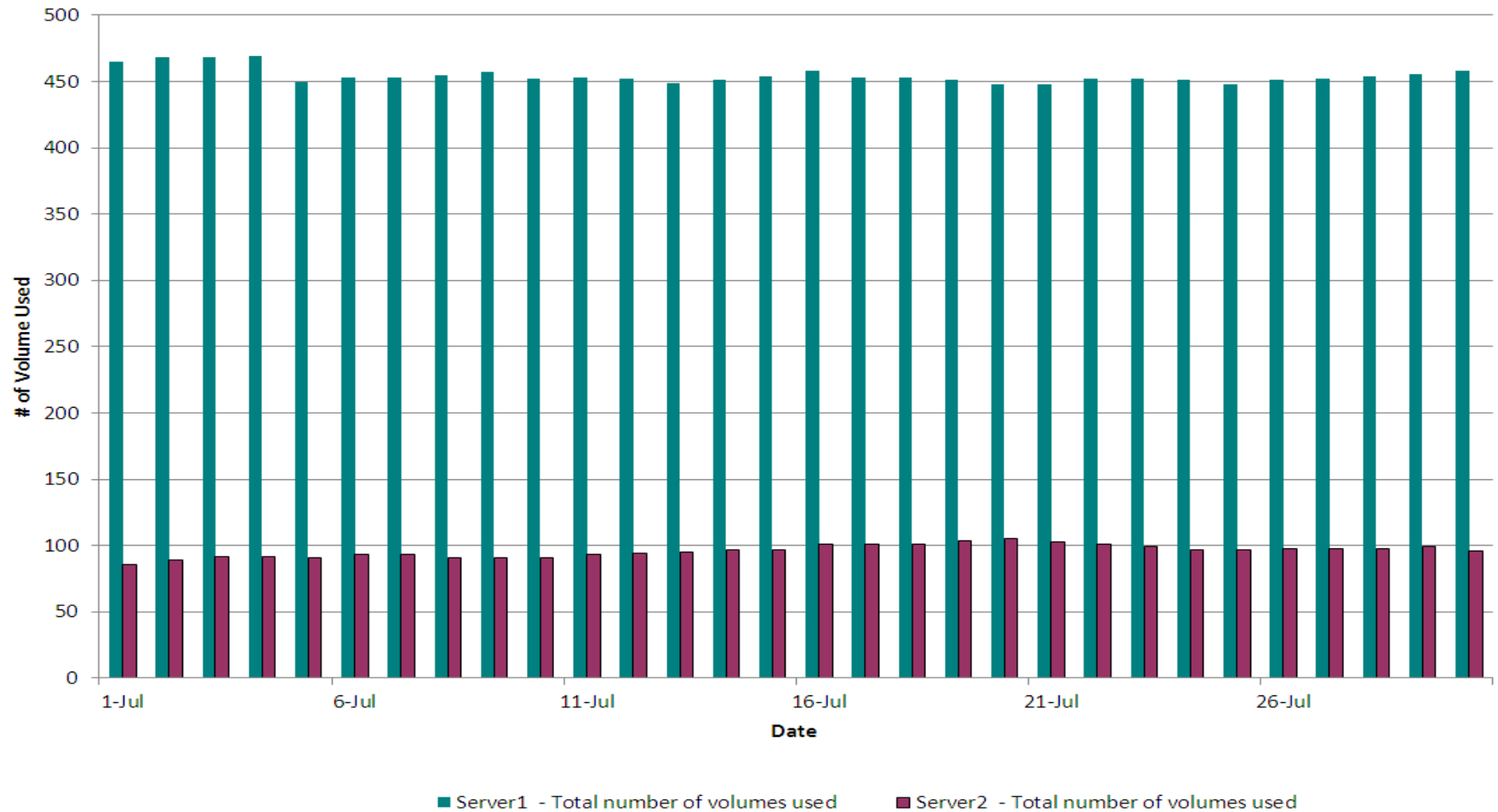| Summary:	High level graphical view of data stored on TSM per day for the month of July.
Observation:	Space used is relatively the same however as data of Oracle database has grown so is space required to be backed up.
Recommendation:	Not applicable

Total Number of Volumes Used – July 2012

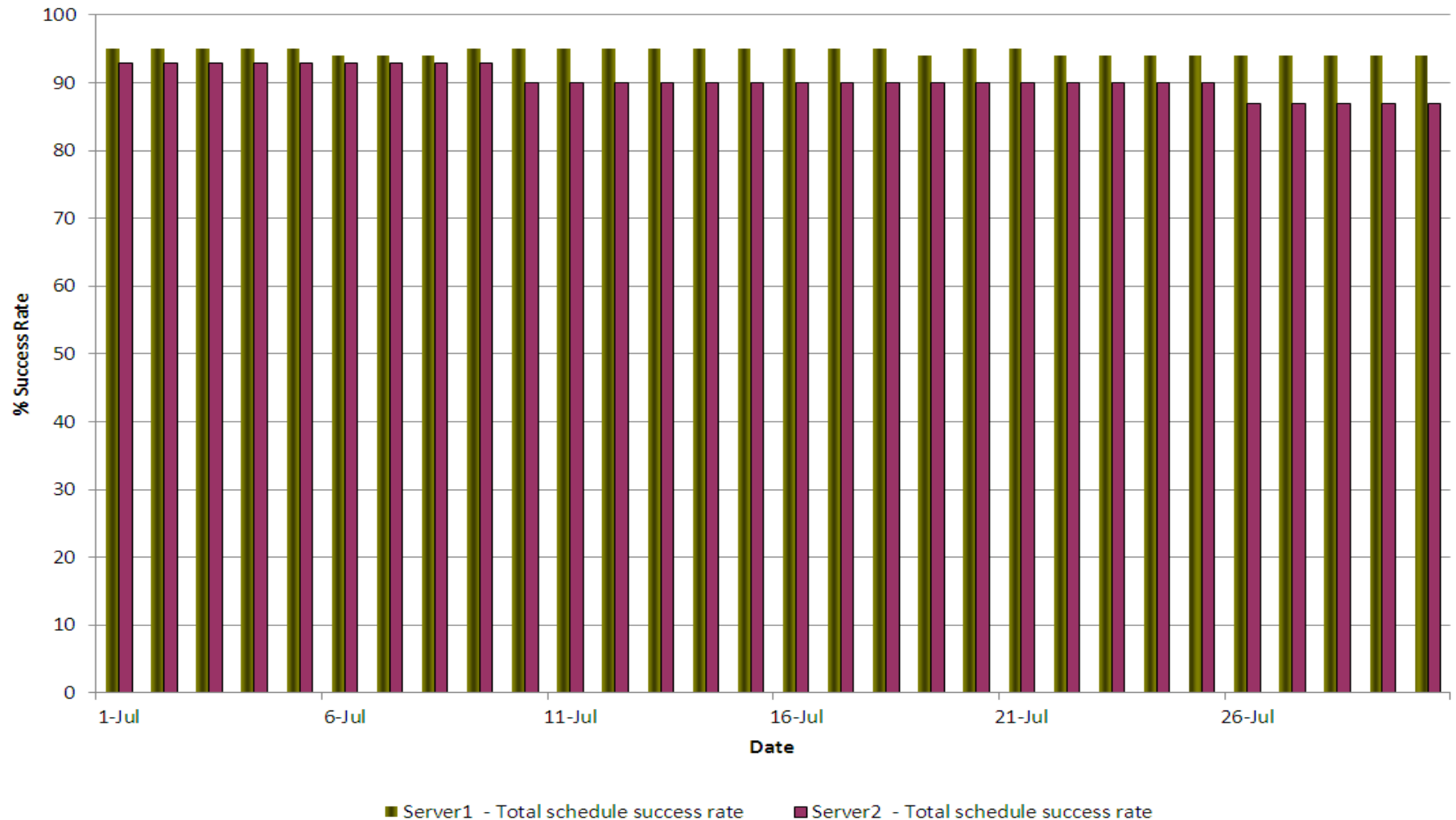**Summary:** High level graphical view of TSM using the number of volumes in a day for the month of July.

Observation: Each LTO4 tape holds 1.5TB. The library has 253 tape slots and 215 of them are in use. Vault capacity is infinite as we continue to order tapes as required.

Recommendation: Not applicable

Total Schedule Success Rate – July 2012

Summary: High level graphical view of TSM being successful in completing the backups on a daily basis for the month of July.
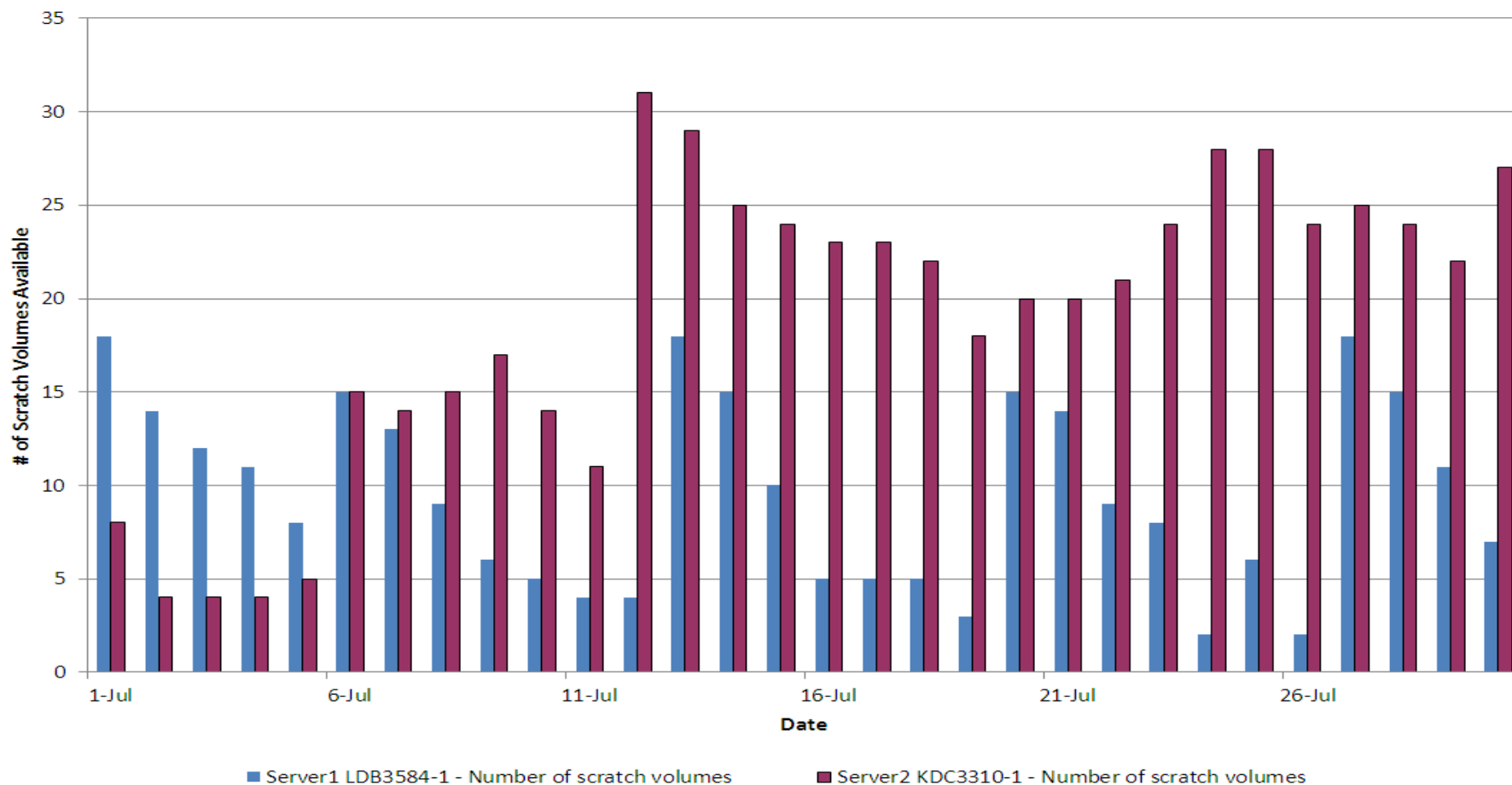
Observation: Continuing to work on the known client failures that are having problems.

Recommendation: Not applicable

Number of Total Scratch Volumes (available for use) – July 2012

Summary: High level graphical view of TSM being successful in completing the backups on a daily basis for the month of July.
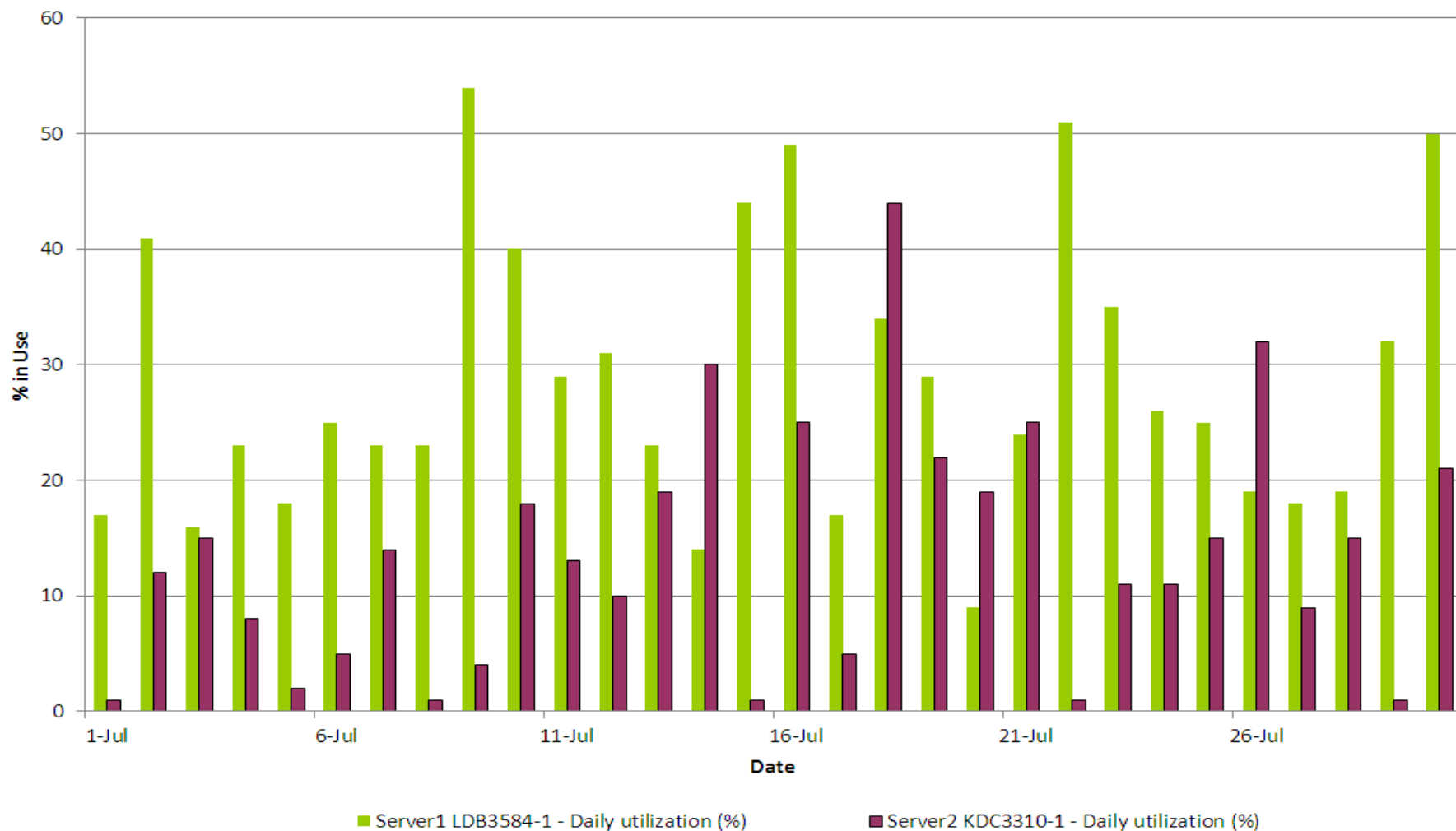
Observation: Each Weekend number of scratched tapes becomes available due to data being deleted by DBA's, data expiring or utilizing new tapes. (Note: data deleted by DBA's for Oracle databases backups on regular basis which are older than 40 days or expires).

Recommendation: Not applicable

Daily TSM Utilization (%) – July 2012

Summary: High level graphical view of TSM Tapes being mounted each day for the month of July.

Observation: TSM is highly utilized on the weekends. TSM for VDC is more utilized for daily backups versus TSM for KDC.

Recommendation: Not applicable

END OF DATA CENTER CHART ANALYSIS

July 2012