Data Centre Chart Analysis

June 2013

Monthly Vancouver, Head Office Internet Gateway- June 2013

For Webstore, Vendor Facing Website, WEB Browsing and other external business communications

LDBVDC1 - Internet Traffic: Gi0/0 [Telus CIU VANCB]

From 2013/06/01 00:00:00 To 2013/06/30 23:59:59

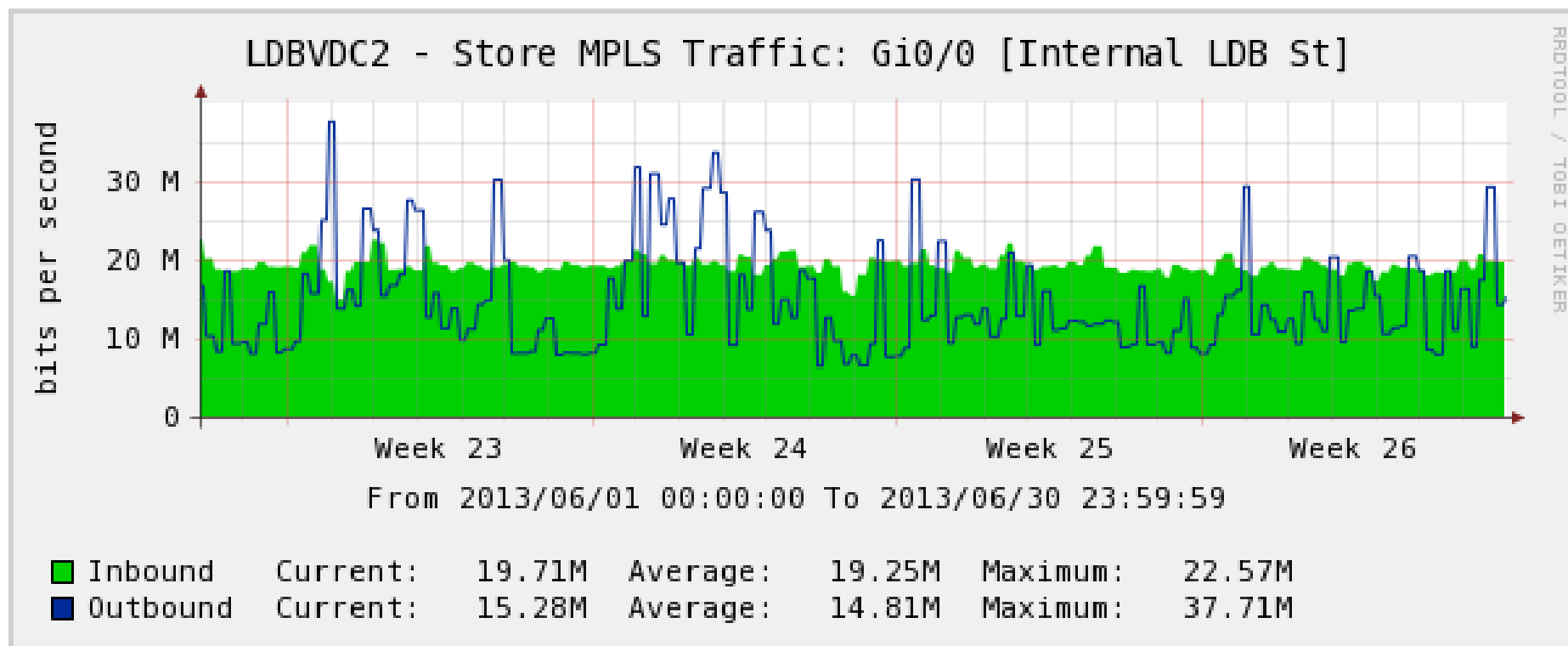|					
☐ Inbound	Current:	455.35k	Average:	3.17M	Maximum:	12.56M
☐ Outbound	Current:	110.93k	Average:	460.95k	Maximum:	2.11M
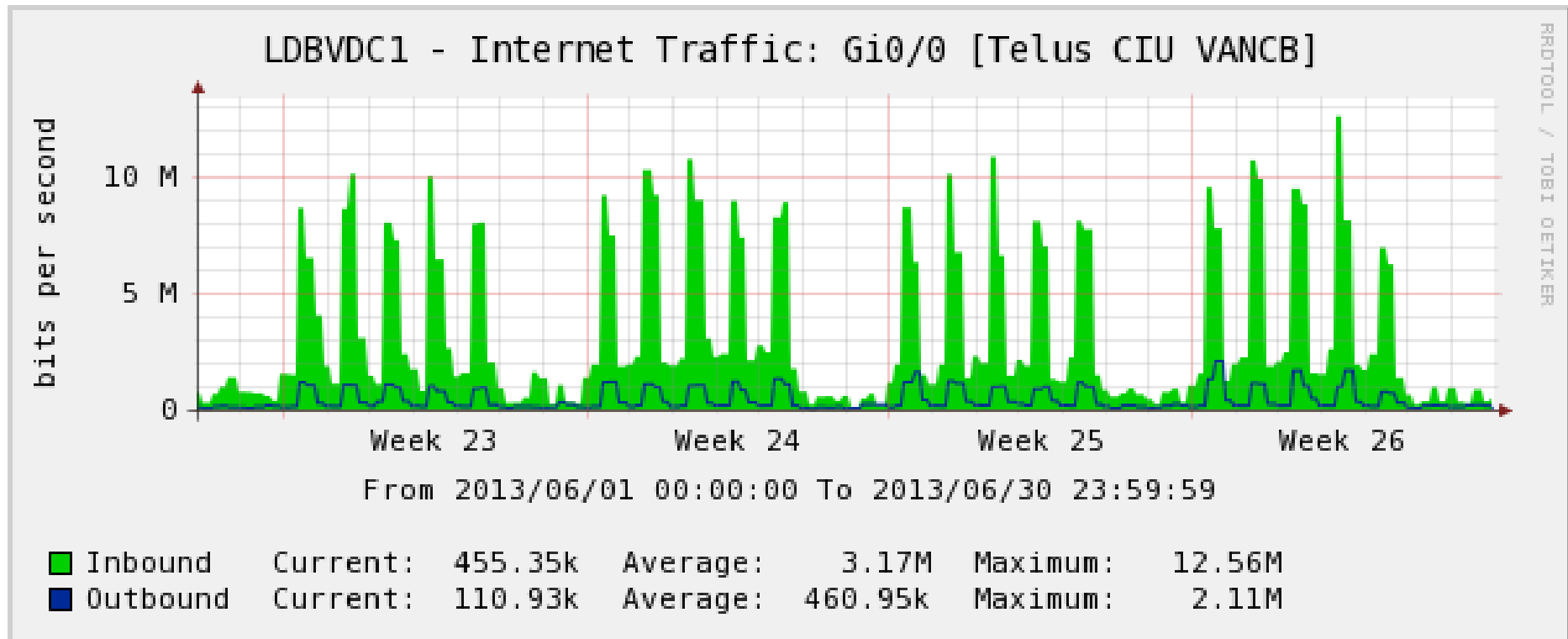
Summary: Graphical view of Head Office Internet data communications. The maximum capacity is 20Mbps.

Observation: During HO core hours (8:00 to 4:30), Internet Gateway operating as expected- 6Mbps download and 1Mbps upload average.

Recommendation: Not applicable

Monthly Vancouver, Head Office Private Network Gateway – June 2013

For Stores Electronic Notifications, Price Changes, EOD Sales Data and Communications between Vancouver & Kamloops Data Centres

LDBVDC2 - Store MPLS Traffic: Gi0/0 [Internal LDB St]

From 2013/06/01 00:00:00 To 2013/06/30 23:59:59

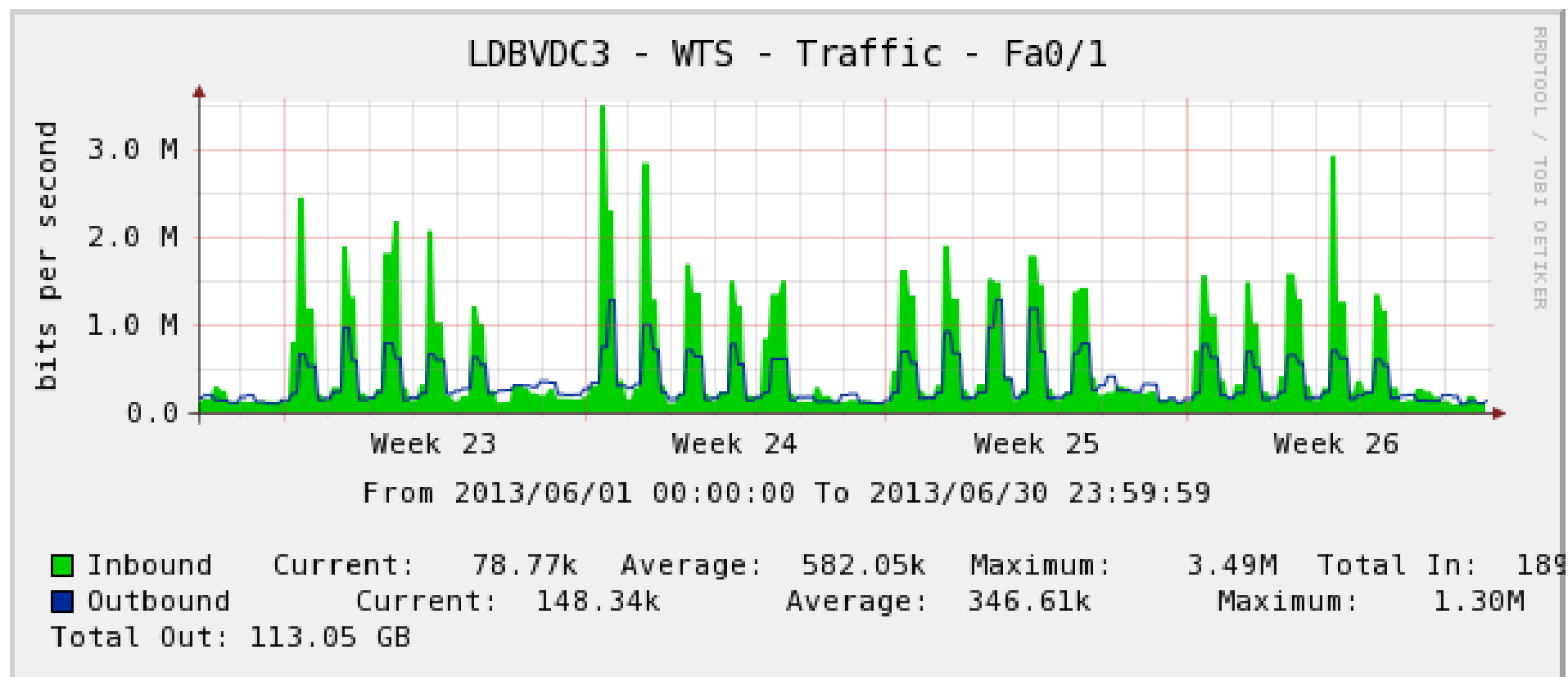|							
■	Inbound	Current:	19.71M	Average:	19.25M	Maximum:	22.57M
■	Outbound	Current:	15.28M	Average:	14.81M	Maximum:	37.71M

Summary: Graphical view of Head Office, Kamloops Distribution and Stores data communications. The maximum capacity is 100 Mbps.

Observation: During HO core hours (8:00 to 4:30), Private Network Internet Gateway operating as expected.

Recommendation: Not applicable

Monthly Vancouver, Head Office to Provincial Government Network Gateway – June 2013

For Corporate and Stores Email and Government websites communications

LDBVDC3 - WTS - Traffic - Fa0/1

RRDTOOL / TOBI OETIKER

bits per second

3.0 M

2.0 M

1.0 M

0.0

Week 23   Week 24   Week 25   Week 26

From 2013/06/01 00:00:00 To 2013/06/30 23:59:59

■ Inbound   Current: 78.77k   Average: 582.05k   Maximum: 3.49M   Total In: 189
■ Outbound   Current: 148.34k   Average: 346.61k   Maximum: 1.30M
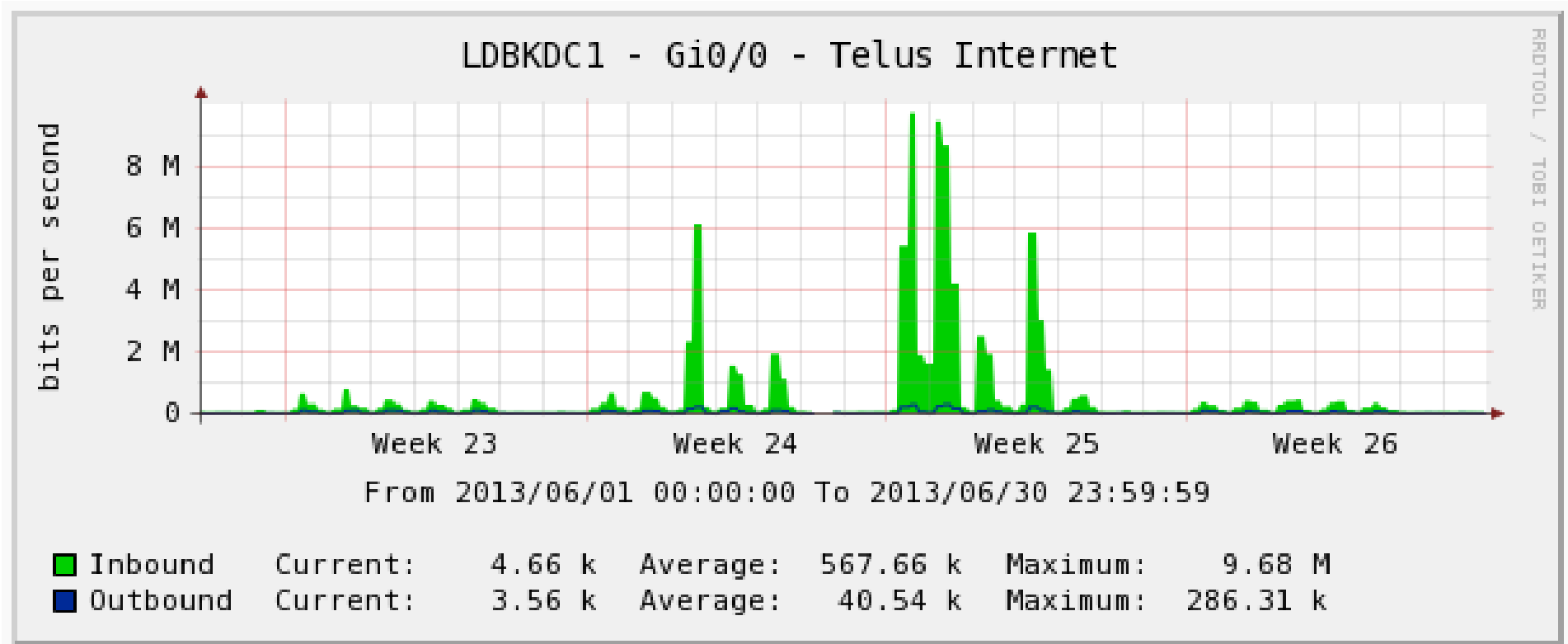Total Out: 113.05 GB

Summary: Graphical view of Head Office and Provincial government data communications. The maximum capacity is 10 Mbps.

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

Recommendation: Not applicable

Monthly Kamloops, Distribution Internet Gateway- June 2013

For WEB Browsing and other external business communications

LDBKDC1 - Gi0/0 - Telus Internet

From 2013/06/01 00:00:00 To 2013/06/30 23:59:59

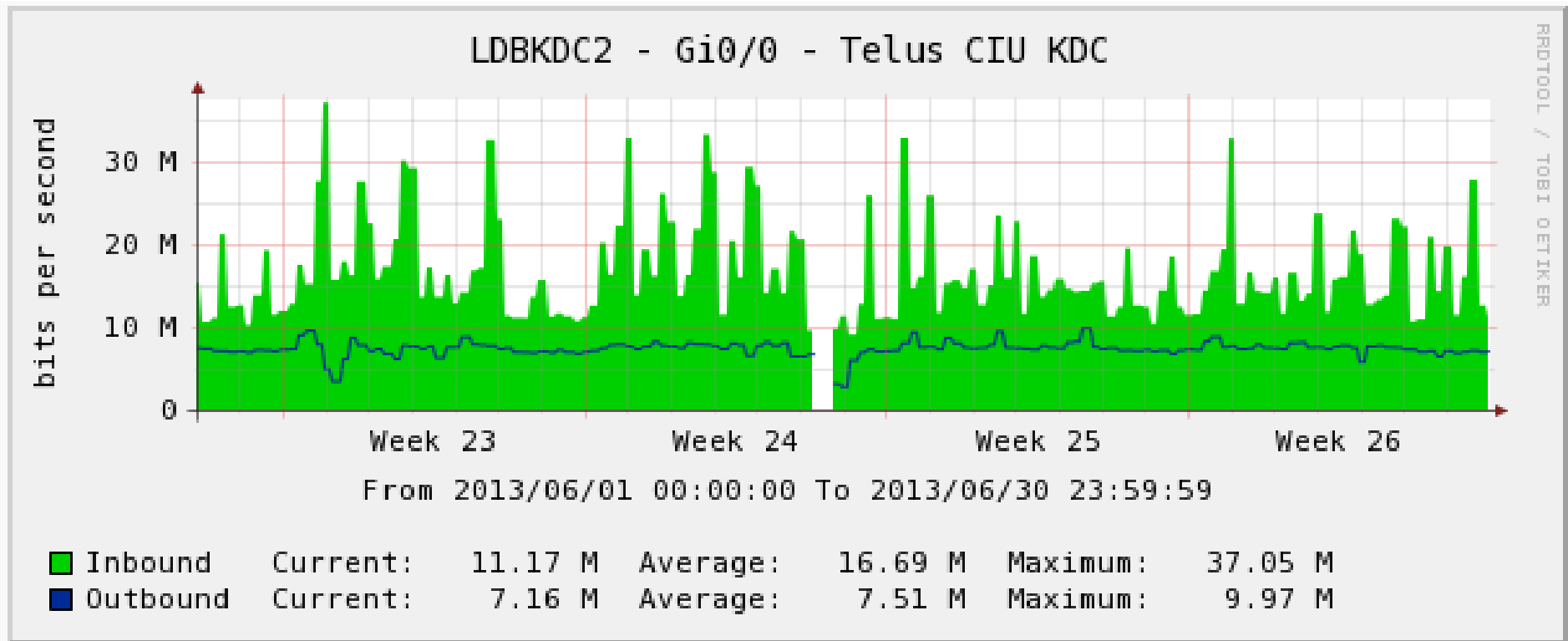|					
■ Inbound	Current:	4.66 k	Average:	567.66 k	Maximum: 9.68 M
■ Outbound	Current:	3.56 k	Average:	40.54 k	Maximum: 286.31 k

Summary: Graphical view of Kamloops Distribution Internet data communications. The maximum capacity is 10Mbps.

Observation: Minimal use. Can be leveraged for internet facing business requirements such as Lottery transactions

Recommendation: Not applicable

Monthly Kamloops, Distribution Private Network Gateway – June 2013

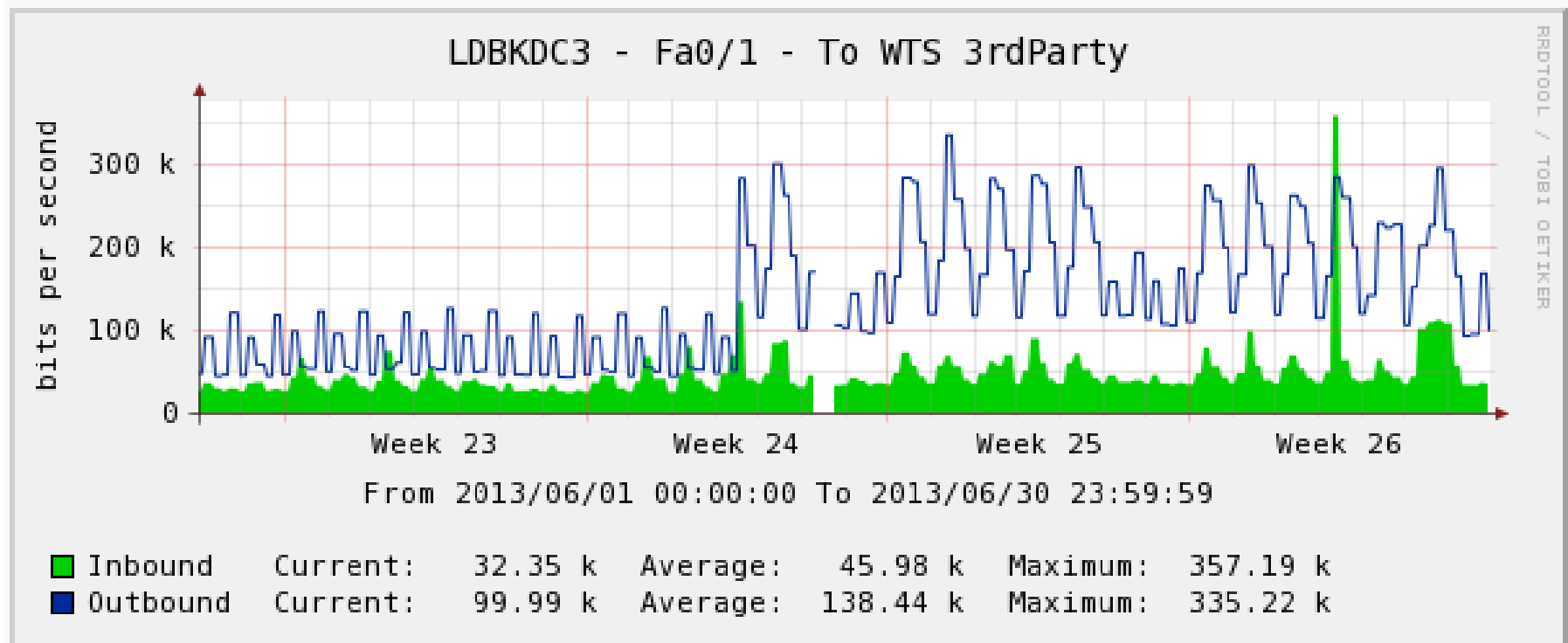**For Vancouver & Kamloops Data Centres communications and Store remote management**

LDBKDC2 - Gi0/0 - Telus CIU KDC

bits per second

30 M

20 M

10 M

0

Week 23   Week 24   Week 25   Week 26

From 2013/06/01 00:00:00 To 2013/06/30 23:59:59

RRDTOOL / TOBI OETIKER

	Current:	Average:	Maximum:
■ Inbound	11.17 M	16.69 M	37.05 M
■ Outbound	7.16 M	7.51 M	9.97 M

Summary: Graphical view of Head Office, Kamloops Distribution and Stores data communications. The maximum capacity is 100 Mbps.

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

Recommendation: Not applicable

Monthly Kamloops, Distribution to Provincial Government Network Gateway – June 2013

## For Corporate and Stores Email and Government websites communications

LDBKDC3 - Fa0/1 - To WTS 3rdParty

From 2013/06/01 00:00:00 To 2013/06/30 23:59:59

■ Inbound	Current:	32.35 k	Average:	45.98 k	Maximum:	357.19 k
■ Outbound	Current:	99.99 k	Average:	138.44 k	Maximum:	335.22 k

Summary: Graphical view of Kamloops, Distribution and Provincial government data communications. The maximum capacity is 10 Mbps.

Observation: Minimal use
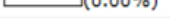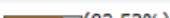
Recommendation: Not applicable

VDC WAN Optimized Traffic Summary - June 2013

Period: (Custom) ▼ **Type:** Optimized ▼ **Traffic:** Bi-Directional ▼ **Refresh:** Off ▼ [Go]
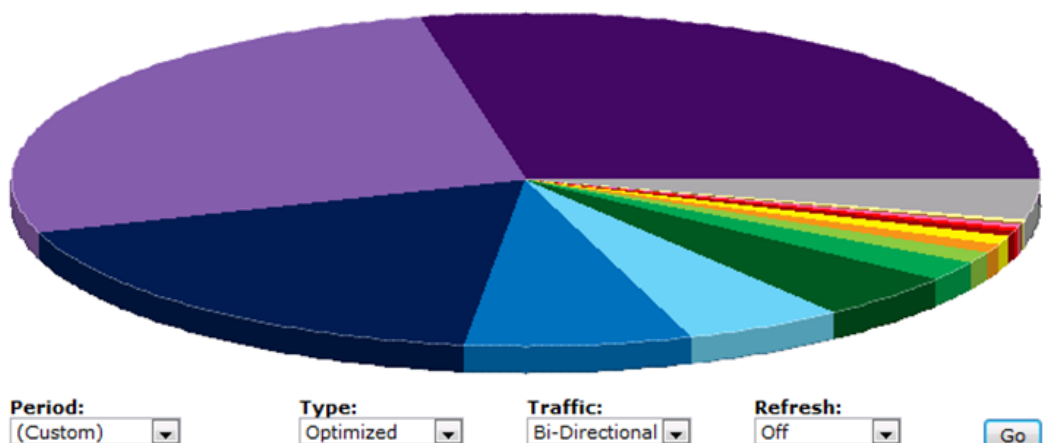
Start Time: 2013/06/01 16:00:00

End Time: 2013/07/01 14:06:43

	Port	Reduction	LAN Data	WAN Data	Traffic %
	Total Optimized Traffic	(58.50%)	4288.7 GB	1779.7 GB	--
	1521 (Oracle Database)	(72.95%)	1219.7 GB	329.9 GB	28.44%
	902 (VMware ESXi)	(89.65%)	1157.9 GB	119.8 GB	27.00%
	9002 (Pelco DVR)	(0.00%)	771.3 GB	782.3 GB	17.98%
	1522 (Oracle Database)	(74.87%)	320.5 GB	80.5 GB	7.47%
	8779 (Windows Server File Transfer)	(82.53%)	219.2 GB	38.3 GB	5.11%
	18184 (CheckPoint FW)	(0.00%)	197.1 GB	202.3 GB	4.60%
	1433 (SQL Database)	(67.06%)	87.0 GB	28.7 GB	2.03%
	1524 (Oracle Database)	(0.00%)	48.1 GB	56.7 GB	1.12%
	445 (Windows Server File Transfer)	(68.86%)	42.6 GB	13.3 GB	0.99%
	80 (Web Traffic)	(86.69%)	37.7 GB	5142.9 MB	0.88%
	257 (CheckPoint FW)	(0.00%)	26.6 GB	27.7 GB	0.62%
	1026 (Microsoft DCOM)	(0.00%)	18.7 GB	19.2 GB	0.44%
	8014 (Symantec Endpoint Protection)	(92.24%)	17.4 GB	1382.0 MB	0.41%

Data Reduction
Average: 57.0%
Peak: 96.1%
2.3x capacity increase

☑ LAN Throughput
Total: 7.4 TB

☑ WAN Throughput
Total: 3.2 TB

4.2 TB was removed from the WAN link.

Summary: Optimized WAN traffic from VDC to KDC showing reduction in WAN traffic.

Observation: Total traffic was optimized by 57.0% resulting in a traffic decrease of 4.2 TB

Recommendation: Not applicable

KDC WAN Optimized Traffic Summary - June 2013

Period:
(Custom) ▼

Type:
Optimized ▼

Traffic:
Bi-Directional ▼

Refresh:
Off ▼

[Go]
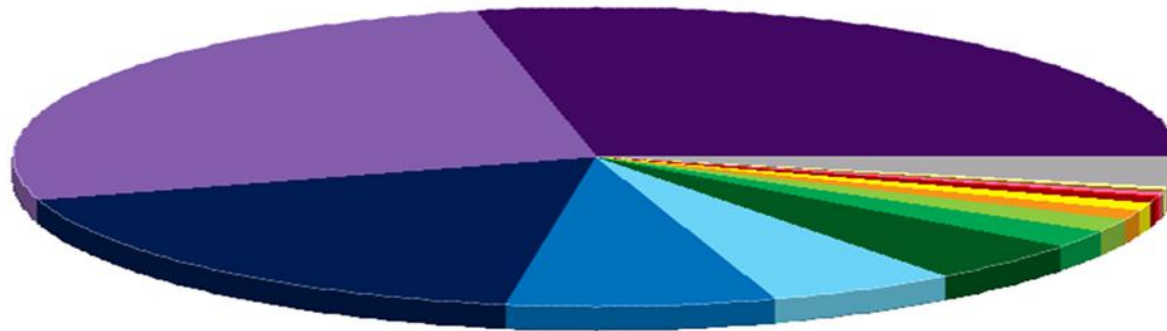
Start Time:
2013/06/01 07:40:00

End Time:
2013/07/01 07:40:00

	Port	Reduction	LAN Data	WAN Data	Traffic %
	Total Optimized Traffic	(58.61%)	4242.3 GB	1755.9 GB	--
	1521 (Oracle Database)	(72.94%)	1207.0 GB	326.6 GB	28.45%
	902 (VMware ESXi)	(89.45%)	1125.5 GB	118.8 GB	26.53%
	9002 (Pelco DVR)	(0.00%)	758.2 GB	769.0 GB	17.87%
	1522 (Oracle Database)	(74.87%)	319.8 GB	80.3 GB	7.54%
	8779 (Windows Server File Transfer)	(83.16%)	225.5 GB	38.0 GB	5.32%
	18184 (CheckPoint FW)	(0.00%)	195.0 GB	200.2 GB	4.60%
	1433 (SQL Database)	(67.08%)	85.4 GB	28.1 GB	2.01%
	445 (Windows Server File Transfer)	(77.98%)	59.9 GB	13.2 GB	1.41%
	1524 (Oracle Database)	(0.00%)	47.3 GB	55.6 GB	1.11%
	80 (Web Traffic)	(88.00%)	41.6 GB	5117.7 MB	0.98%
	257 (CheckPoint FW)	(0.00%)	26.3 GB	27.4 GB	0.62%
	1026 (Microsoft DCOM)	(0.00%)	18.4 GB	18.8 GB	0.43%
	8014 (Symantec Endpoint Protection)	(92.28%)	17.4 GB	1371.6 MB	0.41%

Data Reduction
Average: 57.3%
Peak: 96.0%
2.3x capacity increase

☑ **LAN Throughput**
Total: 7.4 TB

☑ **WAN Throughput**
Total: 3.2 TB

4.3 TB was removed
from the WAN link.

Summary: Optimized WAN traffic from KDC to VDC showing reduction in WAN traffic.

Observation: Total traffic was optimized by 57.3% resulting in a traffic decrease of 4.3 TB

Recommendation: Not applicable

Branch Public WiFI Access, no authentication required – June 2013

Tablet Manufacture	Count of Vendor
Apple Inc	**351**
Broadway	351
Samsung Electro Mechanics	**167**
Broadway	167
HTC Corporation	**44**
Broadway	44
Research In Motion	**32**
Broadway	32
LG Electronics	**32**
Broadway	32
Intel Corporate	**30**
Broadway	30
Murata Manufacturing Co.	**18**
Broadway	18
Nokia Corporation	**11**
Broadway	11
Grand Total	**685**

Count of Vendor

Vendor   Location
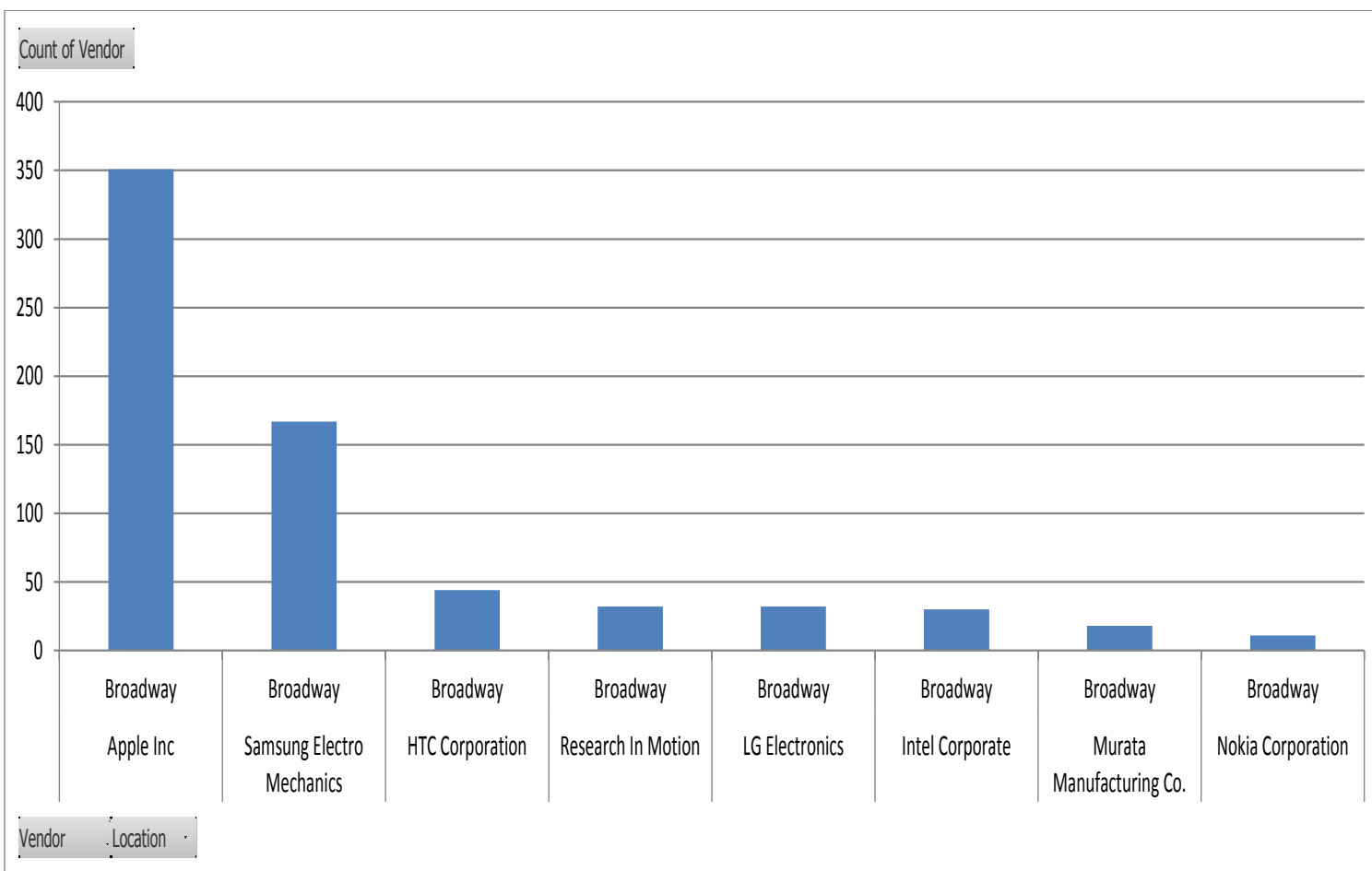
Summary: High level graphical view of top 8 vendors using the Public Wireless Network for the month of June 2013.

Observation: Please note the Rupert building WIFI reporting is missing due a update performed on the Access points names which was done in May. Some devices (Apple) automatically connect to visible Wi-Fi spots, but it does not necessarily reflect usage (they may not have agreed to the terms and actively use the hotspot).

Recommendation: Not applicable

VDCGTM – VDC Global Traffic Manager Availability June 2013

GTM is used for DNS Load Balancing
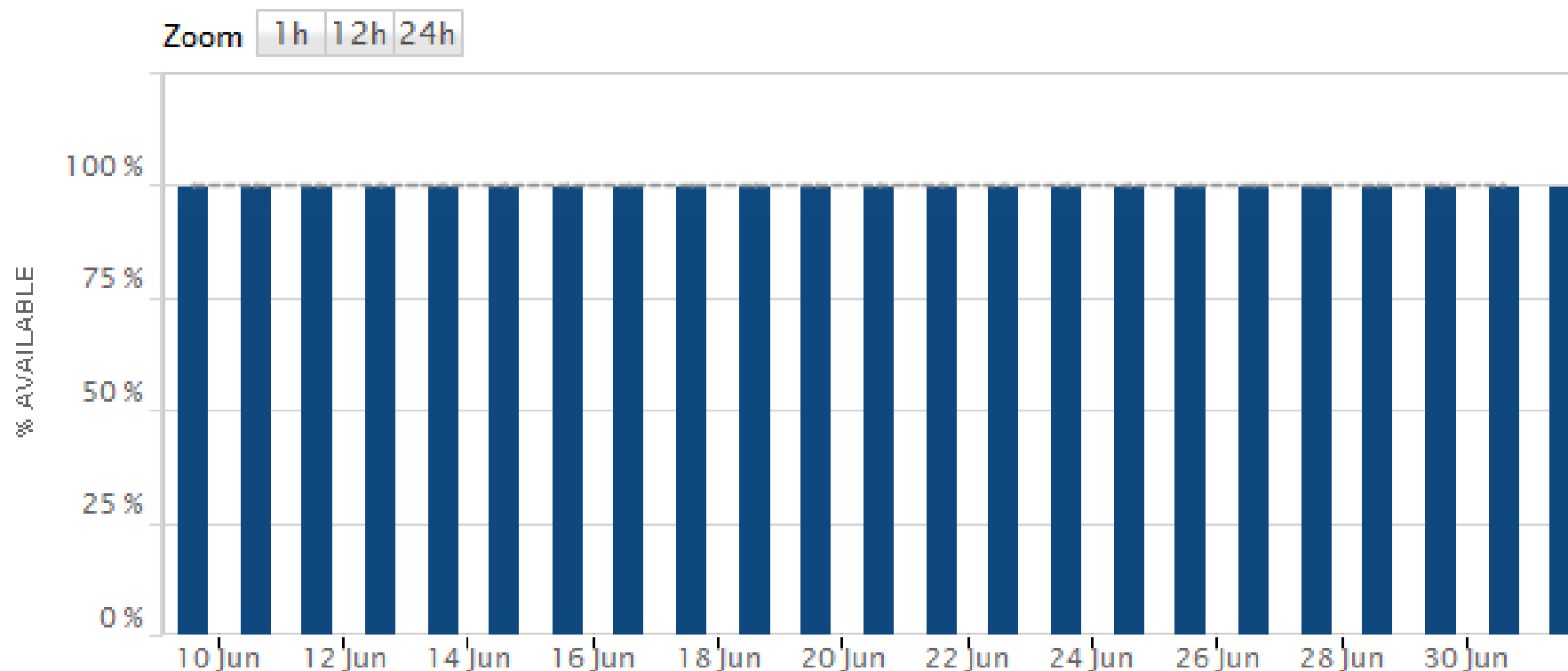
Summary: High level graphical view of VDC GTM Availability for the month of June 2013.

Observation: None

Recommendation: Not applicable

KDCGTM – VDC Global Traffic Manager Availability June 2013

GTM is used for DNS Load Balancing
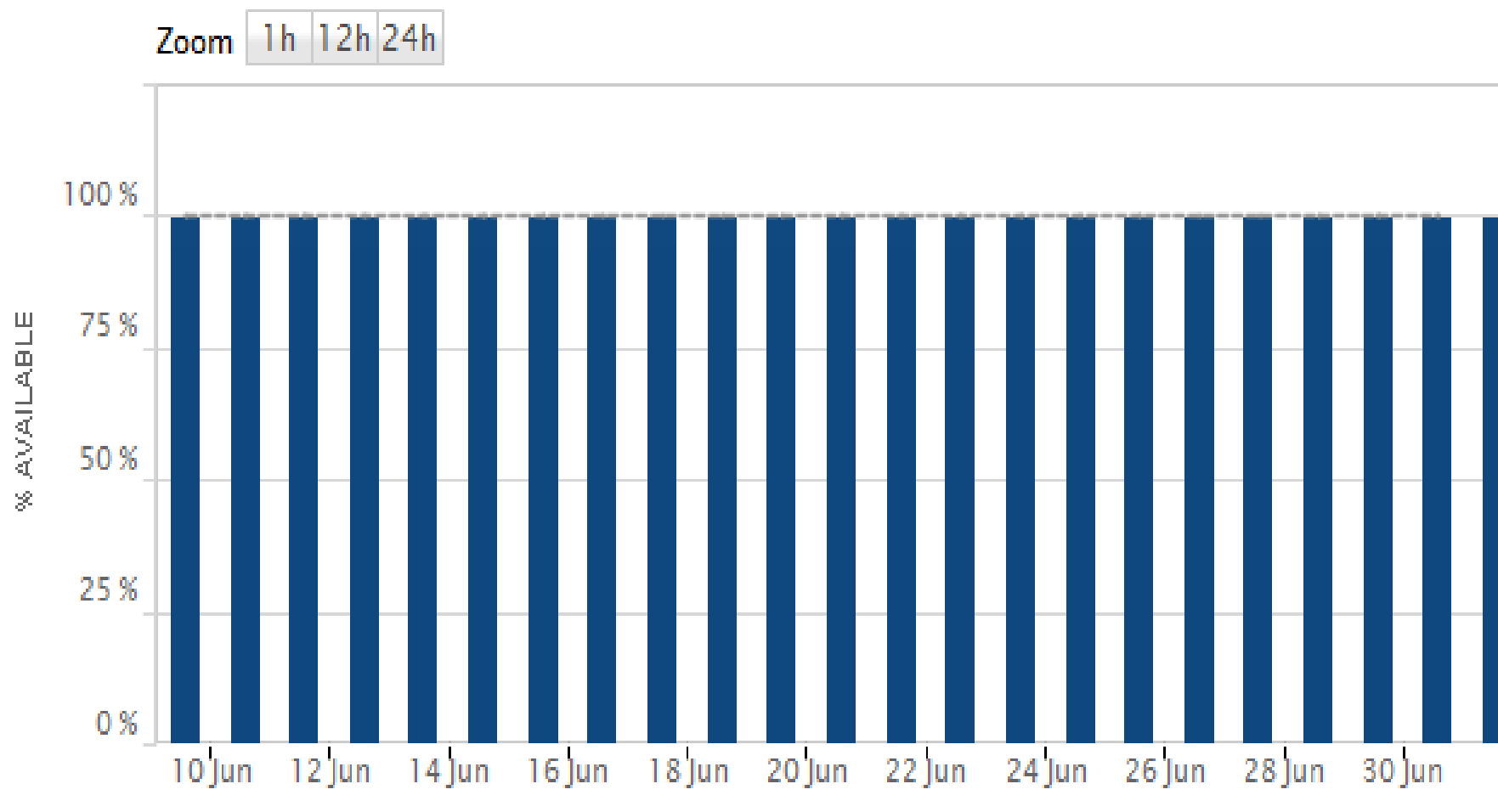
Summary: High level graphical view of KDC GTM Availability for the month of June 2013.

Observation: None

Recommendation: Not applicable

Daily (7:00am Snapshot) Availability of Business Application – June 2013

Legend Summary

Red = Application not available or system not available

Yellow = Limited availablity of Application

Green = No Application issues

Y-axis: # of Occurances (workdays only) — 0 to 20

X-axis (Key Applications): RetailDebit/Credit, Product Profile/Locator, Supplier Website(VFW), Wholesale- BC Express Pay, Wholesale- Order Mgmt, WebStore, Distribution (RBWMS), GM Sales Report, Time & Labour, Finance (SCIA), RIMS, BCLS Sales in DW, End Of Day (EOD), Buying Guide (Purchasing), PMM Core (Price/Product Changes), NSWP Report, WOM - Pick Release, WOM - Order Line Update, WOM - Auto Invoice, WOM - ShipDash Refresh

Summary: High level graphical view of Business Applications availability.

Observation: In June there was two critical issues: WOM – Order line update - reached critical threshold .

Recommendation: Not applicable

WebStore Availability June 2013

% Availability of Website (y-axis: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100)

Date (x-axis: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31)

Legend:
- Critical
- OK
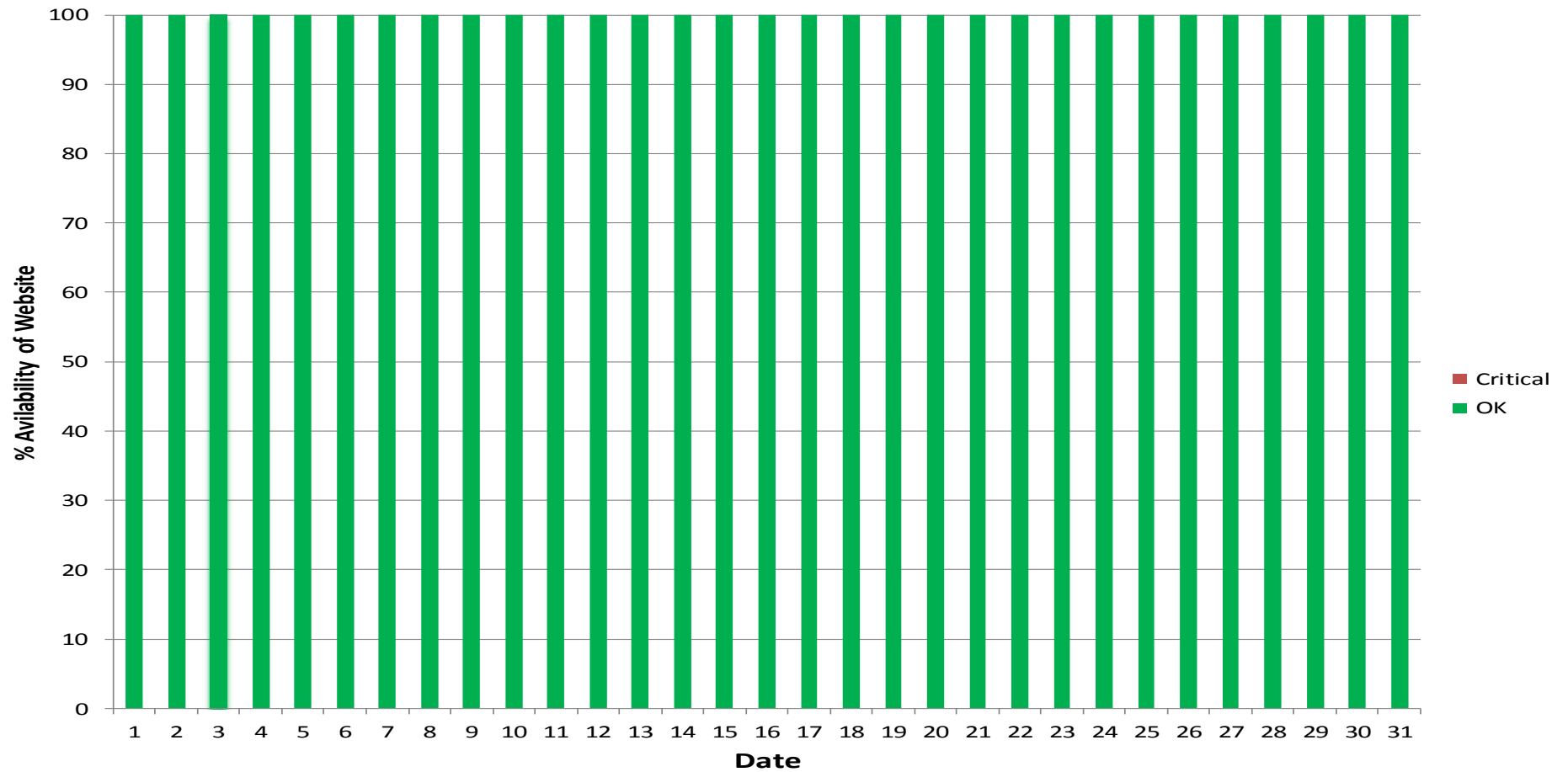
Summary: High level graphical view of Webstore's Availability for the month of June 2013.

Observation: There were no issues in the month of June in terms of WebStore outage or availability.

Recommendation: Not applicable

Weekday Remote Access – June 2013
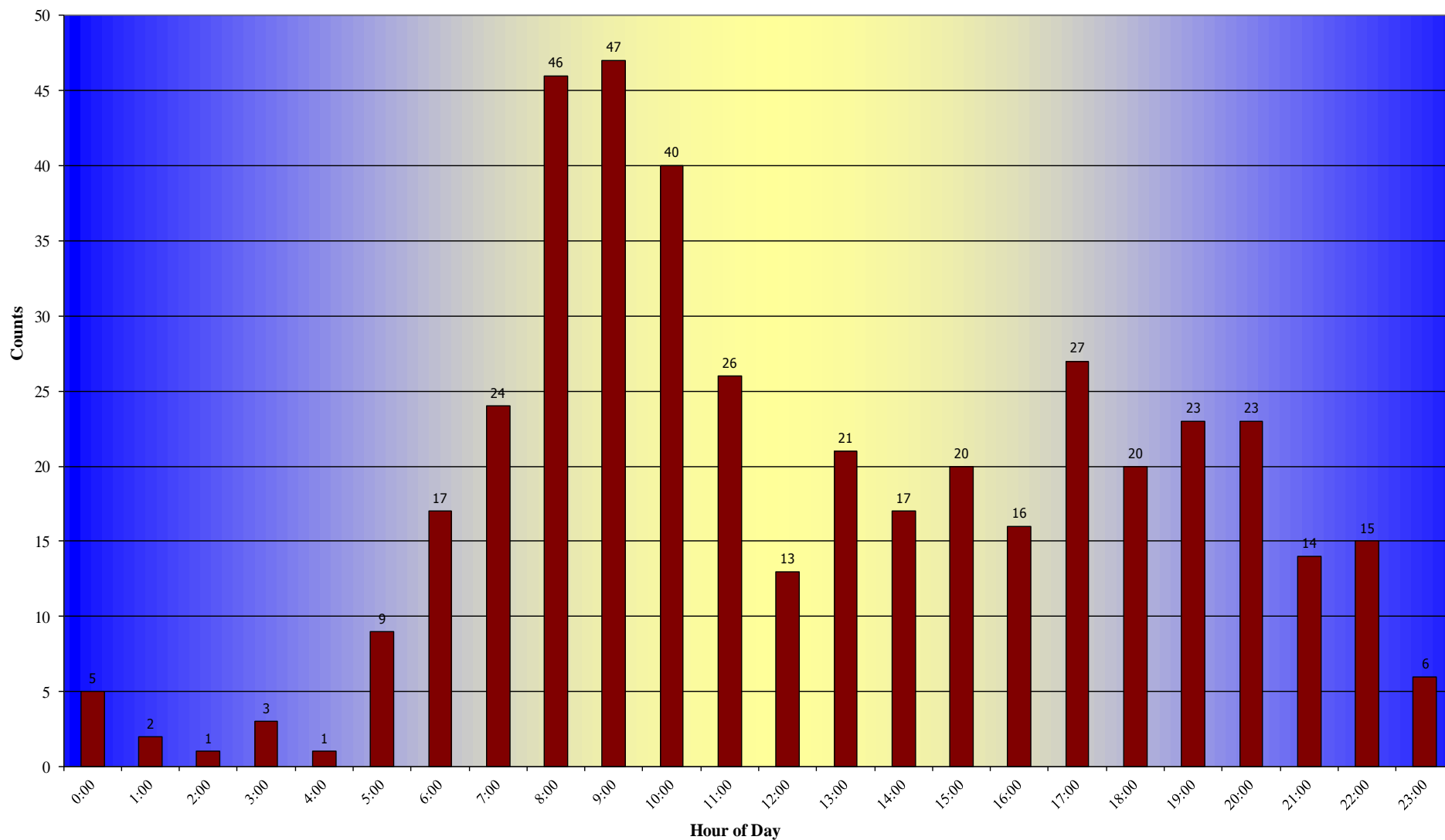
Summary: High level graphical view of Users remotely accessing Head Office resources in the Weekdays shown in hours of the day for the month of June.

Observation: More people accessing Head Office resources in the morning (6am – 9am) versus in the afternoon (between 5pm – 10pm).
The high counts of users includes testing being done via Citrix Wireless Access.

Recommendation: Not applicable

Weekend Remote Access – June 2013
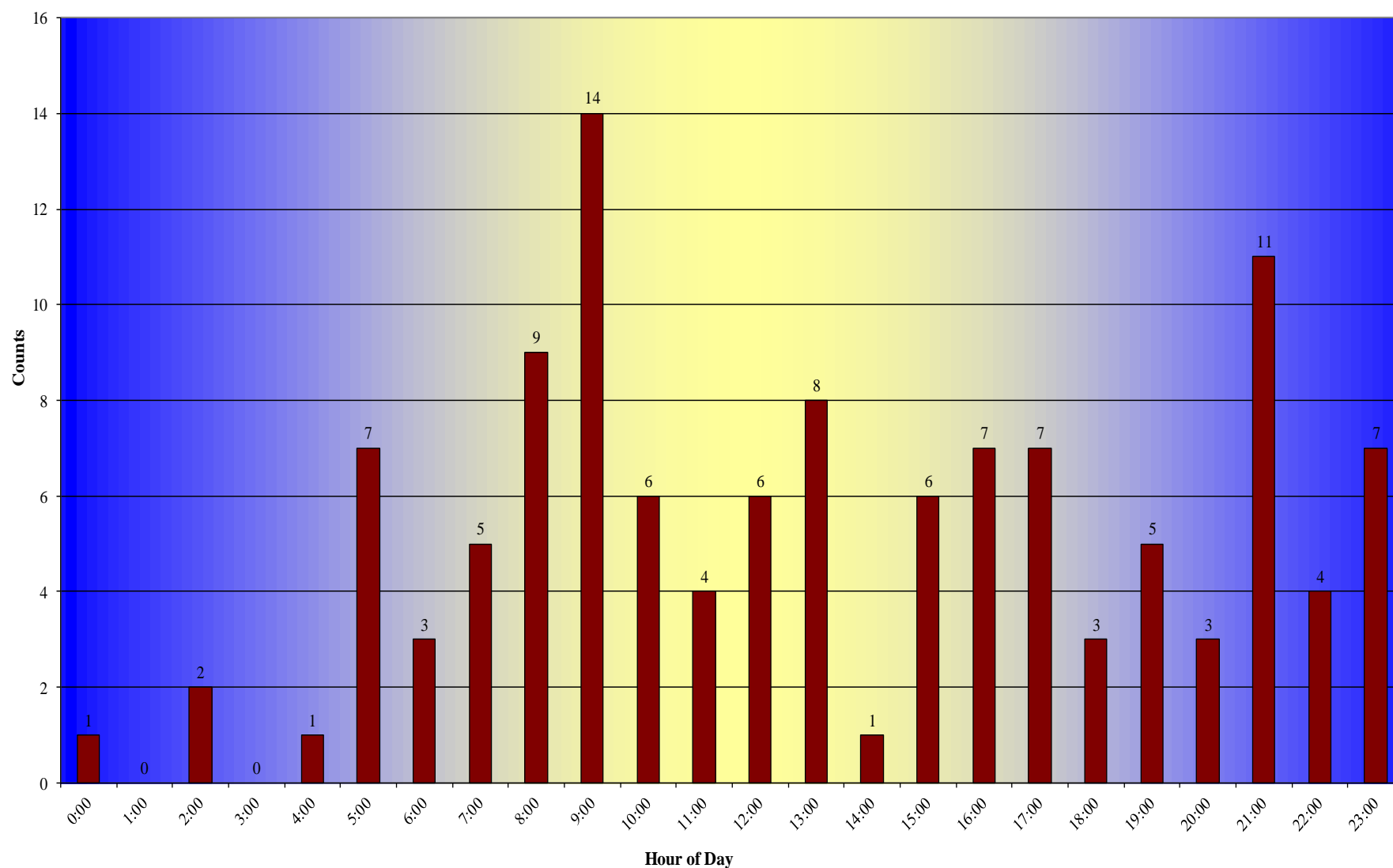
Summary: High level graphical view of Users remotely accessing Head Office resources on the Weekend shown in hours of the day for the month of June.

Observation: More people accessing Head Office resources in the Weekday vs. Weekend no matter which time of day.

Recommendation: Not applicable

Total Daily Backup Amount (TB) – June 2013
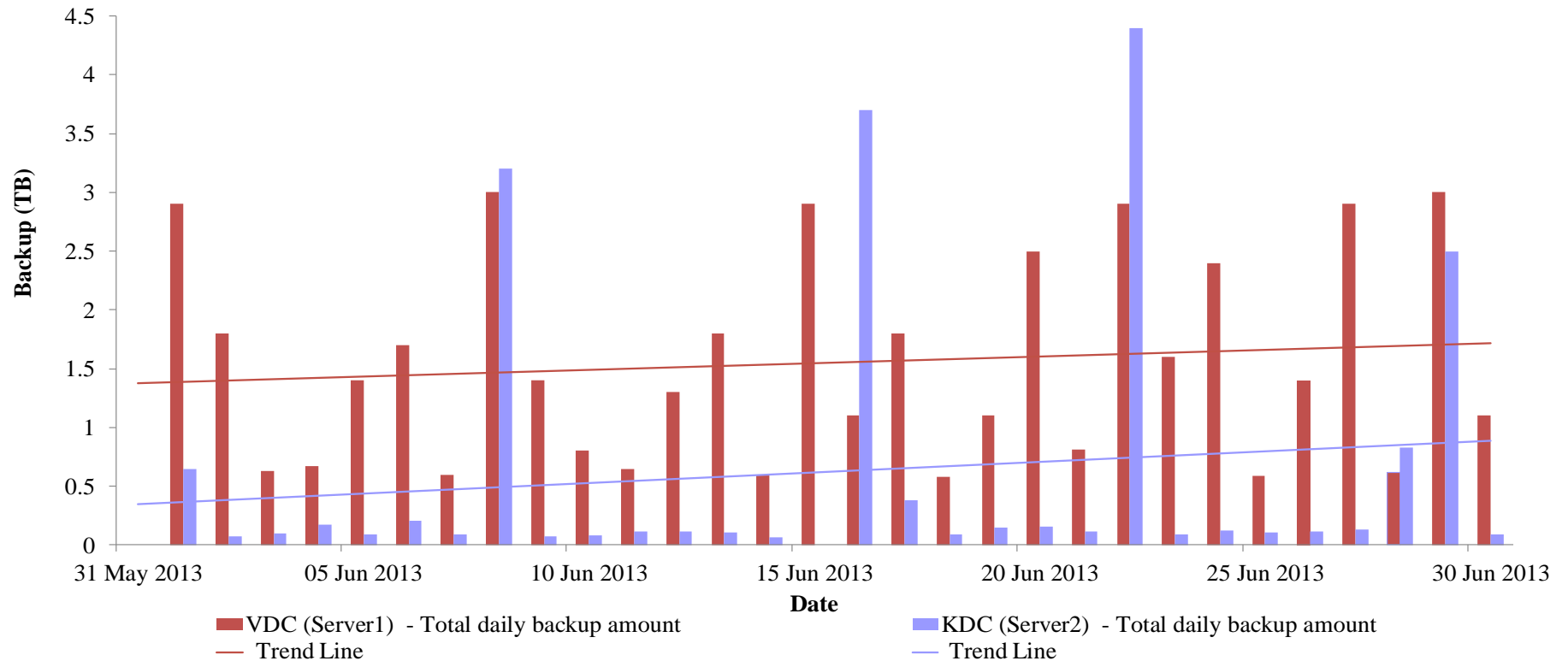
Summary: High level graphical view graphical view of TSM Daily Backup for the month of June.

Note: Each LTO4 tape holds 1.6TB. The VDC library has 253 tape slots and KDC library has 125 tape slots. The capacity is limited by the number of slots we can put as scratch tapes. However the Vault capacity is infinite as we continue to order tapes as required.

Observation: On June 22nd – Both KDC and VDC had over 7.3TB of SAN storage data backed up by TSM on to tape.

Recommendation: Not applicable

Total Number of Volumes Used – June 2013
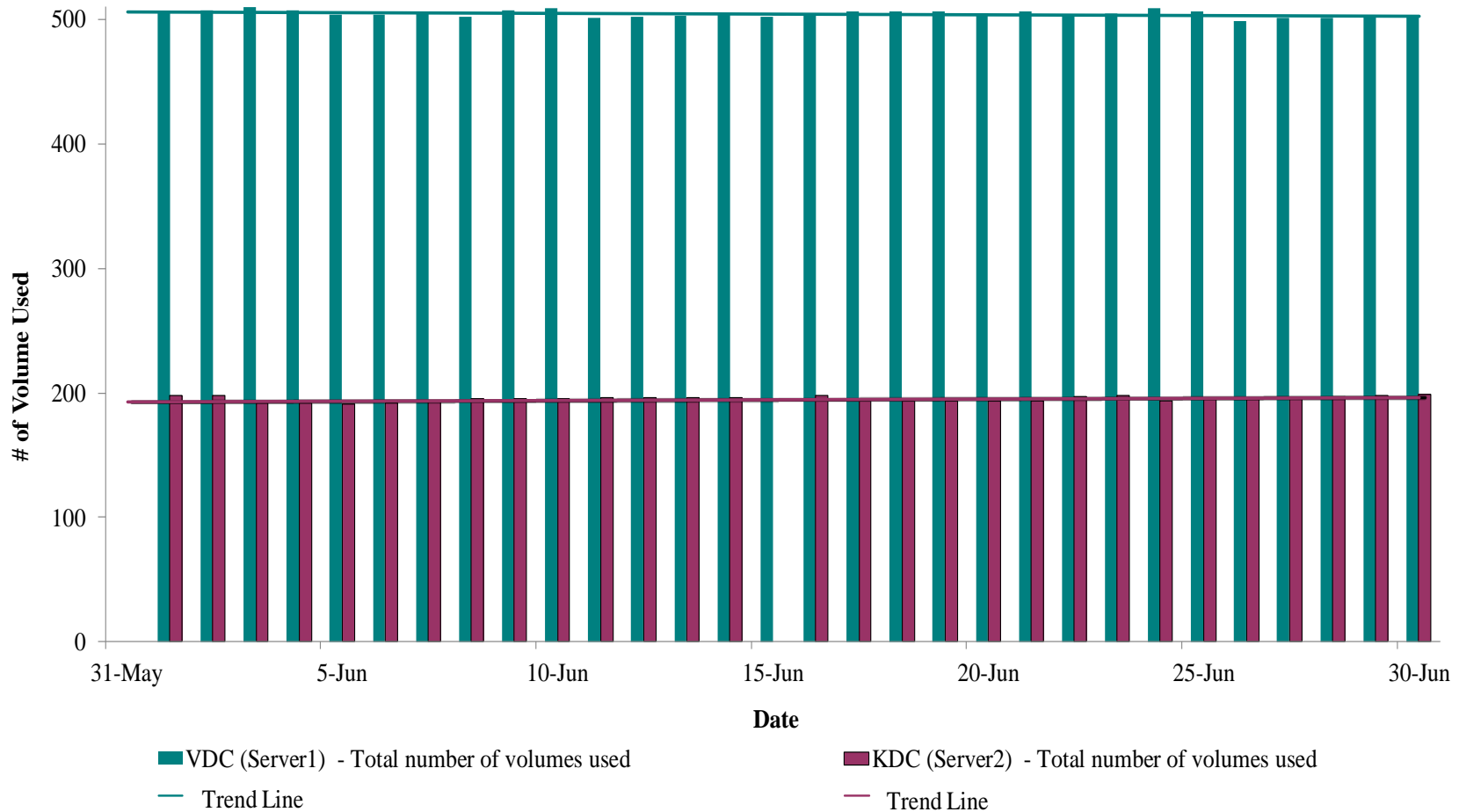
Summary: High level graphical view of TSM using the number of volumes in a day for the month of June.

Observation: The VDC library has 253 tape slots and 230 of them are in use. The KDC library has 125 tape slots and 123 of them are in use. This also includes Tapes that off site at Iron Mountain

Recommendation: Not applicable

Total Schedule Success Rate – June 2013
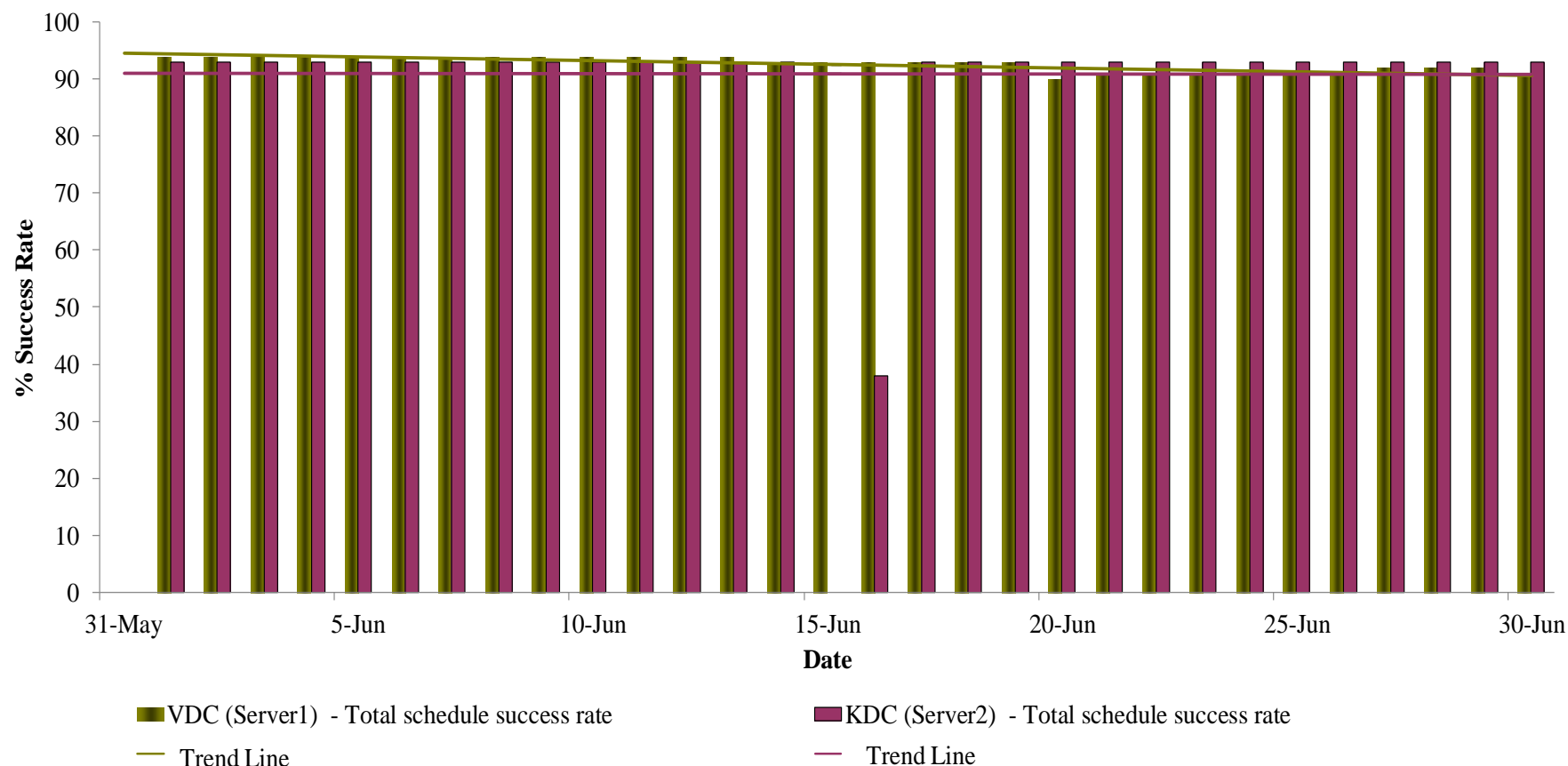
Summary: High level graphical view of TSM being successful in completing the backups on a daily basis for the month of June.

Observation: From June 14 – June 16 weekend there was planned KDC outage and therefore backups were done prior to the weekend.

Recommendation: Not applicable

Daily TSM Utilization (%) – June 2013

Legend:
- VDC (Server1) LDB3584-1 - Daily utilization %
- KDC (Server2) KDC3310-1 - Daily utilization %
- Trend Line
- Trend Line
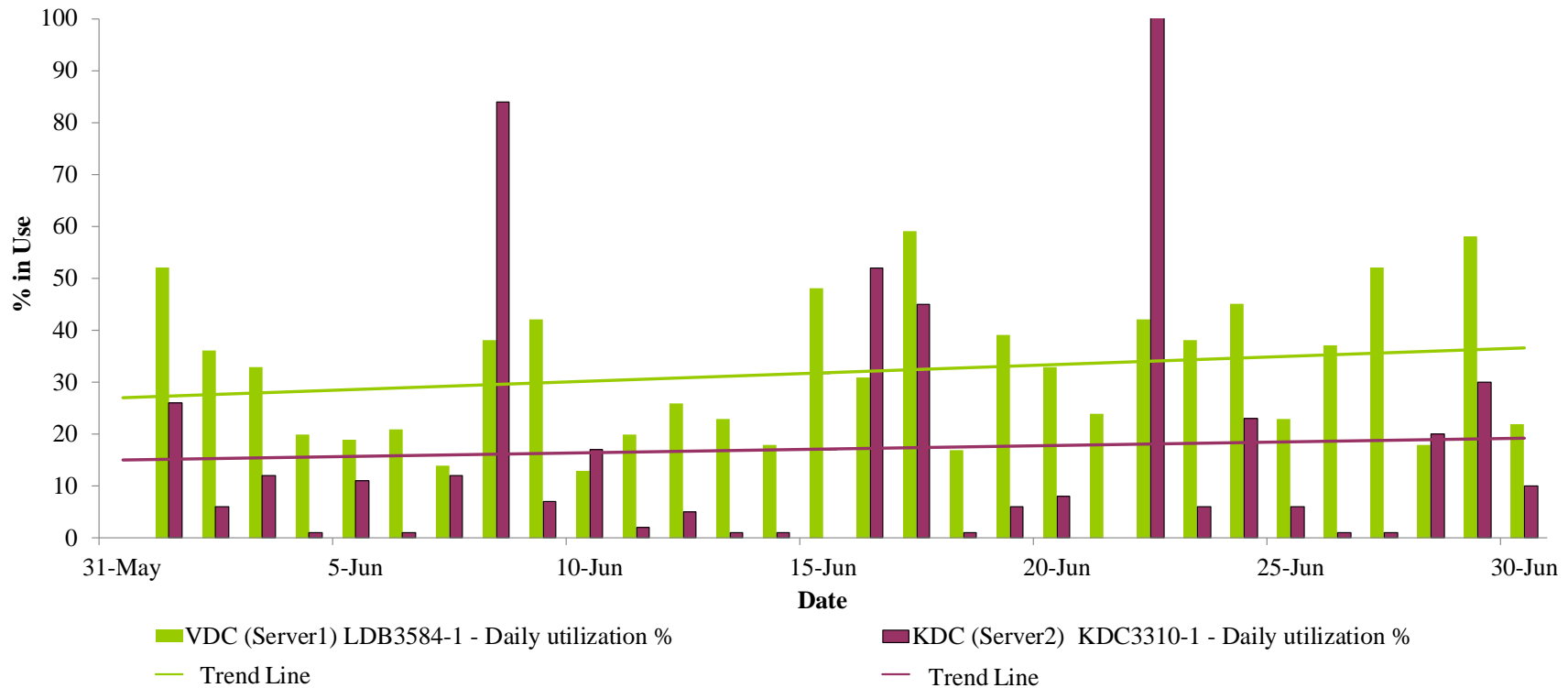
Summary: High level graphical view of TSM Tapes being mounted each day for the month of June.

Observation: TSM is highly utilized on the weekends. Two times KDC TSM was more utilized versus VDC TSM.

Recommendation: Not applicable

Network Service Statistics
Summary

Totals	Target	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13
Tickets closed		57	87	62	93	118	72	80	56	84	44	50	46
Completed on time		53	85	60	90	116	72	79	54	84	44	49	45
% Completed on time	90%	93%	98%	97%	97%	98%	100%	99%	96%	100%	100%	98%	98%
Internal													
Tickets closed		35	72	34	49	74	42	60	30	57	36	42	31
Completed on time		31	71	33	48	73	42	59	29	57	36	42	31
% Completed on time	90%	89%	99%	97%	98%	99%	100%	98%	97%	100%	100%	100%	100%
External (SSBC service)													
Tickets closed		22	15	28	44	44	30	20	26	27	8	8	15
Completed on time		22	14	27	42	43	30	20	25	27	8	7	14
% Completed on time	90%	100%	93%	96%	95%	98%	100%	100%	96%	100%	100%	88%	93%

Tickets Closed
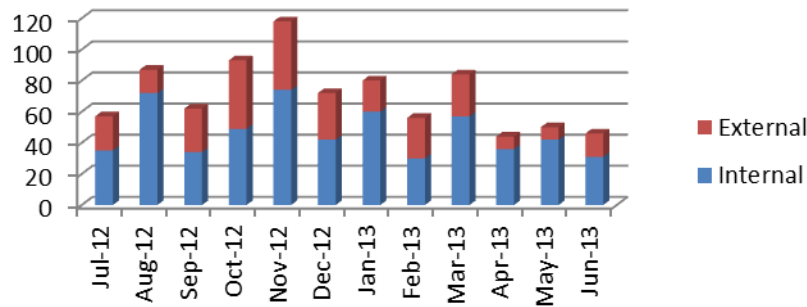
% Completed on Time
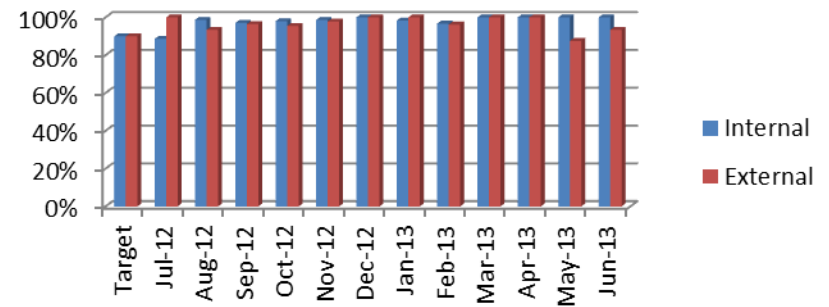
Tickets Closed by Type
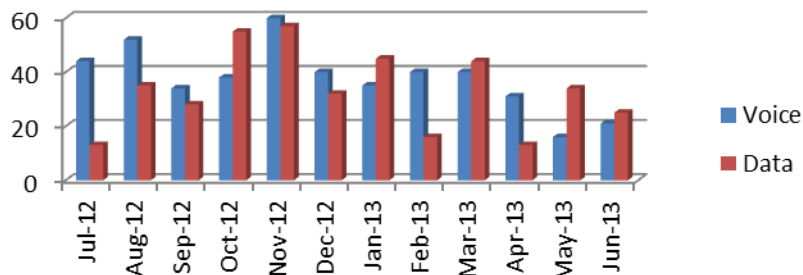
% Completed on Time

Network Service Statistics

Summary

Voice	Target	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13
Tickets closed		44	52	34	38	61	40	35	40	40	31	16	21
Completed on time		41	50	33	38	61	40	35	39	40	31	15	21
% Completed on time	90%	93%	96%	97%	100%	100%	100%	100%	98%	100%	100%	94%	100%
Internal													
Tickets closed		25	42	11	12	35	20	21	19	16	26	11	10
Completed on time		22	41	11	12	35	20	21	19	16	26	11	10
% Completed on time	90%	88%	98%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
External (SSBC service)													
Tickets closed		19	10	23	26	26	20	14	21	24	5	5	11
Completed on time		19	9	22	26	26	20	14	20	24	5	4	11
% Completed on time	90%	100%	90%	96%	100%	100%	100%	100%	95%	100%	100%	80%	100%

Data	Target	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13
Tickets closed		13	35	28	55	57	32	45	16	44	13	34	25
Completed on time		12	35	27	52	55	32	44	15	44	13	34	24
% Completed on time	90%	92%	100%	96%	95%	96%	100%	98%	94%	100%	100%	100%	96%
Internal													
Tickets closed		10	30	23	37	39	22	39	11	41	10	31	21
Completed on time		9	30	22	36	38	22	38	10	41	10	31	21
% Completed on time	90%	90%	100%	96%	97%	97%	100%	97%	91%	100%	100%	100%	100%
External (SSBC service)													
Tickets closed		3	5	5	18	18	10	6	5	3	3	3	4
Completed on time		3	5	5	16	17	10	6	5	3	3	3	3
% Completed on time	90%	100%	100%	100%	89%	94%	100%	100%	100%	100%	100%	100%	75%

Network Service Statistics
Head Office Details

HO Voice	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13
Tickets closed	36	48	20	29	48	30	22	31	32	27	13	15
Completed on time	33	46	20	29	48	30	22	31	32	27	12	15
% Completed on time	92%	96%	100%	100%	100%	100%	100%	100%	100%	100%	92%	100%
Internal												
Tickets closed	18	38	10	11	26	14	12	16	10	24	10	5
Completed on time	15	37	10	11	26	14	12	16	10	24	10	5
% Completed on time	83%	97%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
External (SSBC service)												
Tickets closed	18	10	10	18	22	16	10	15	22	3	3	10
Completed on time	18	9	10	18	22	16	10	15	22	3	2	10
% Completed on time	100%	90%	100%	100%	100%	100%	100%	100%	100%	100%	67%	100%

HO Data	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13
Tickets closed	11	16	14	16	15	13	18	6	18	10	6	9
Completed on time	10	16	13	16	15	13	18	5	18	10	6	9
% Completed on time	91%	100%	93%	100%	100%	100%	100%	83%	100%	100%	100%	100%
Internal												
Tickets closed	9	14	13	16	12	9	17	6	17	8	5	9
Completed on time	8	14	12	16	12	9	17	5	17	8	5	9
% Completed on time	89%	100%	92%	100%	100%	100%	100%	83%	100%	100%	100%	100%
External (SSBC service)												
Tickets closed	2	2	1	0	3	4	1	0	1	2	1	0
Completed on time	2	2	1	0	3	4	1	0	1	2	1	0
% Completed on time	100%	100%	100%	0%	100%	100%	100%	0%	100%	100%	100%	0%

Network Service Statistics

Branch Details

Branch Voice	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13
Tickets closed	8	4	14	9	13	10	13	9	8	4	3	6
Completed on time	8	4	13	9	13	10	13	8	8	4	3	6
% Completed on time	100%	100%	93%	100%	100%	100%	100%	89%	100%	100%	100%	100%
Internal												
Tickets closed	7	4	1	1	9	6	9	3	6	2	1	5
Completed on time	7	4	1	1	9	6	9	3	6	2	1	5
% Completed on time	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
External (SSBC service)												
Tickets closed	1	0	13	8	4	4	4	6	2	2	2	1
Completed on time	1	0	12	8	4	4	4	5	2	2	2	1
% Completed on time	100%	0%	92%	100%	100%	100%	100%	83%	100%	100%	100%	100%

Branch Data	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13
Tickets closed	2	19	14	39	42	19	27	10	26	3	28	16
Completed on time	2	19	14	36	40	19	26	10	26	3	28	15
% Completed on time	100%	100%	100%	92%	95%	100%	96%	100%	100%	100%	100%	94%
Internal												
Tickets closed	1	16	10	21	27	13	22	5	24	2	26	12
Completed on time	1	16	10	20	26	13	21	5	24	2	26	12
% Completed on time	100%	100%	100%	95%	96%	100%	95%	100%	100%	100%	100%	100%
External (SSBC service)												
Tickets closed	1	3	4	18	15	6	5	5	2	1	2	4
Completed on time	1	3	4	16	14	6	5	5	2	1	2	3
% Completed on time	100%	100%	100%	89%	93%	100%	100%	100%	100%	100%	100%	75%

Network Service Statistics

Response Date	Due	Incident	Location	Category	Reason for late Completion
09-Jul-12	29-Jun-12	488930	Head Office	Voice	Static issue on phone lines.
12-Jul-12	05-Jun-12	484285	Head Office	Voice	Static issue on phone lines.
12-Jul-12	04-Jul-12	489536	Head Office	Voice	Delay in getting access to first aid room.
16-Jul-12	30-May-12	483316	Head Office	Data	Delay in getting approval for changes
01-Aug-12	27-Jul-12	488880	Store	Voice	Delay in getting phone line installed
10-Aug-12	07-Aug-12	495846	Head Office	Voice	Static issue on phone lines.
23-Aug-12	31-Jul-12	494094	Head Office	Voice	Static issue on phone lines.
24-Aug-12	02-Aug-12	489192	Store	Voice	Cutover of new phone lines was delayed
19-Sep-12	13-Sep-12	499313	Store	Voice	SSBC delay in removing service
24-Sep-12	12-Sep-12	501657	Head Office	Data	Ongoing discussions about naming delayed implementation
11-Oct-12	16-Aug-12	497487	Store	Data	Waiting for Eric Waterman, Security Technician, Corp Sec to visit store
30-Oct-12	19-Oct-12	505515	Store	Data	Required hub to be sent to store
31-Oct-12	18-Oct-12	500782	Store	Data	Delay in removing old ADSL circuit. New data line was installed on time.
21-Nov-12	09-Oct-12	505718	Store	Data	Ongoing pin pad issue. Ticket was closed and reopened several times. Problem finally determined to be an error in a DNS entry.
22-Nov-12	09-Nov-12	509552	Store	Data	Time needed to troubleshoot slow speed
07-Jan-13	18-Dec-12	515771	Store	Data	Time needed to get replacement WIPS sensor
04-Feb-13	30-Jan-13	519804	Store	Voice	Phone needed to be replaced
11-Apr-13	26-Mar-13	524633	Store	Voice	Delay getting information from client and delay getting Voice tree installed
12-Apr-13	05-Oct-12	504778	Store	Data	Cisco bug that was never resolved
23-May-13	17-May-13	537101	Head Office	Voice	Delay receiving password
04-Jun-13	08-Nov-12	509326	Store	Data	Delay waiting for Corp. Sec. to respond

End of Data Centre Chart Analysis

June 2013