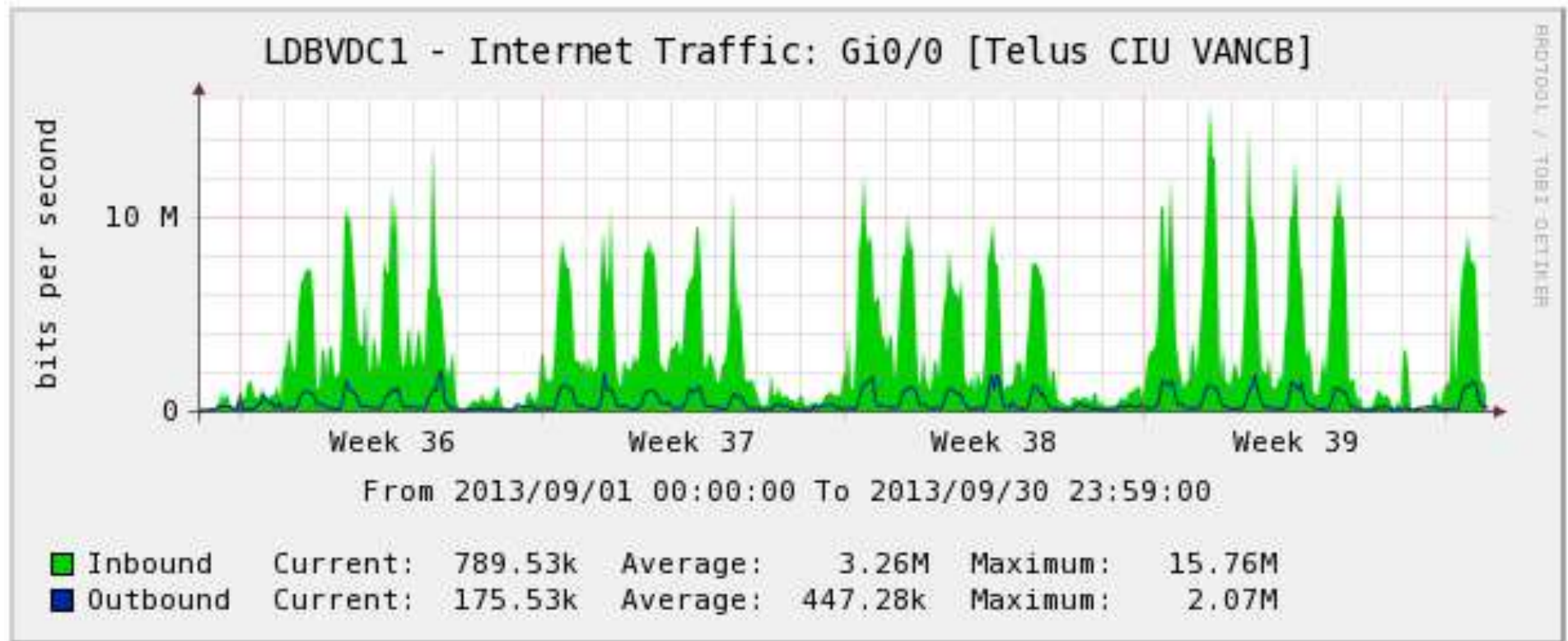September 2013

Data Centre Chart Analysis

Monthly Vancouver, Head Office Internet Gateway- September 2013

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

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

	Current:	Average:	Maximum:
Inbound	789.53k	3.26M	15.76M
Outbound	175.53k	447.28k	2.07M

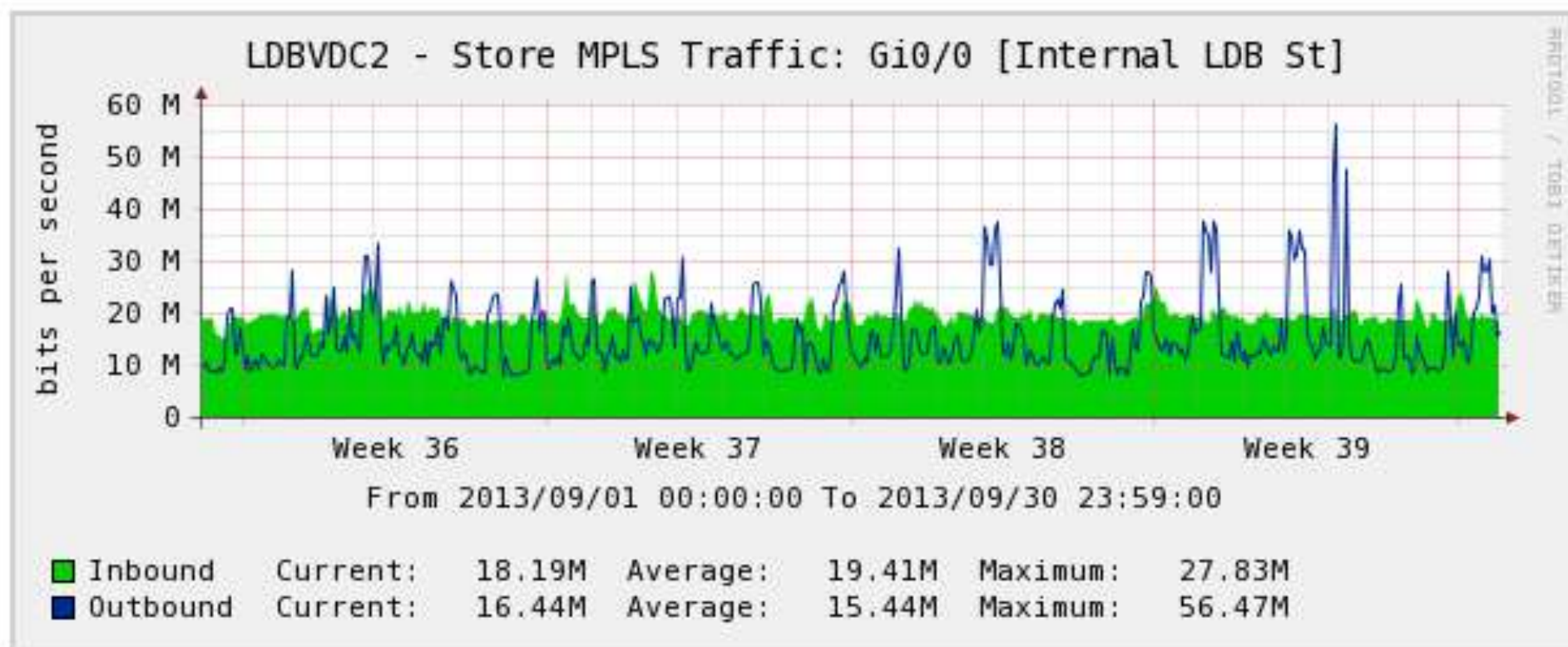From 2013/09/01 00:00:00 To 2013/09/30 23:59:00

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 – September 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]

	Current:		Average:		Maximum:	
☐ Inbound	Current:	18.19M	Average:	19.41M	Maximum:	27.83M
☐ Outbound	Current:	16.44M	Average:	15.44M	Maximum:	56.47M

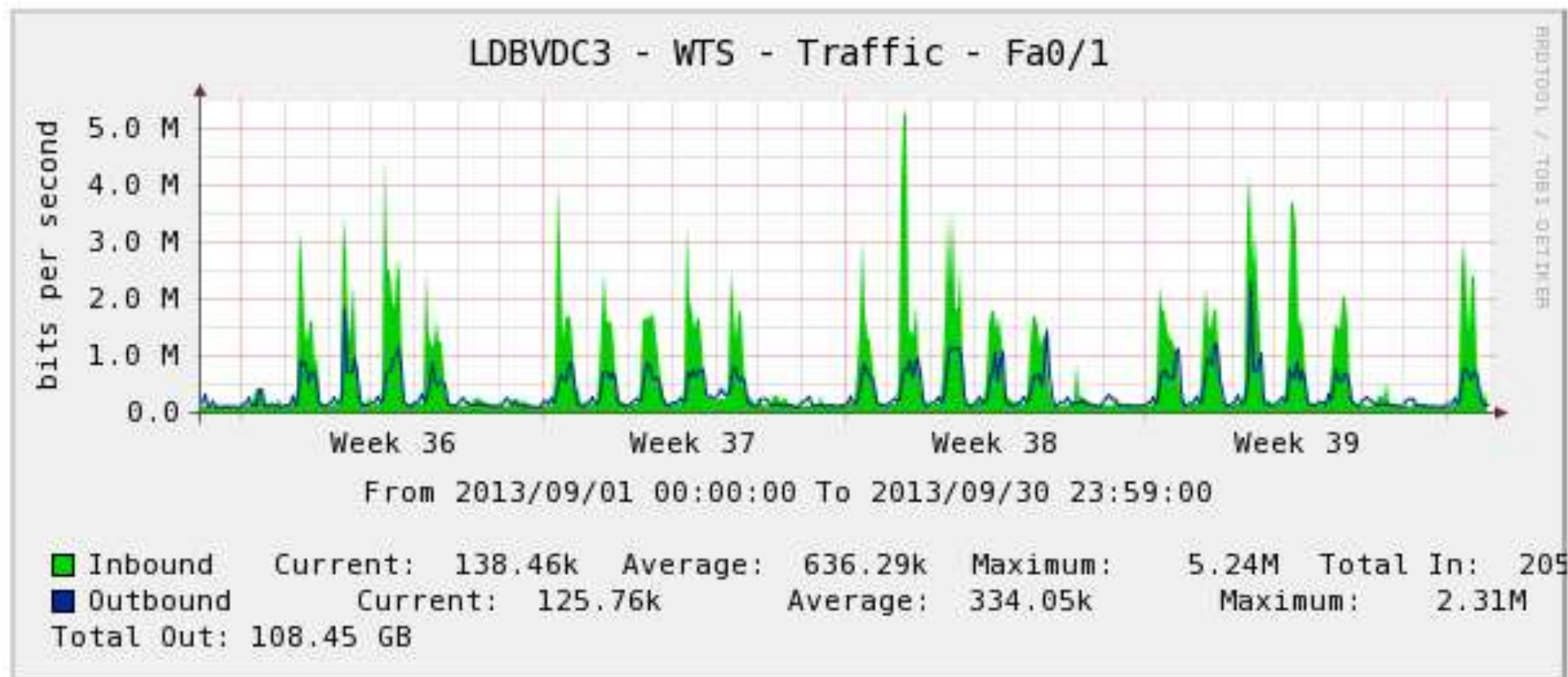From 2013/09/01 00:00:00 To 2013/09/30 23:59:00

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 – September 2013

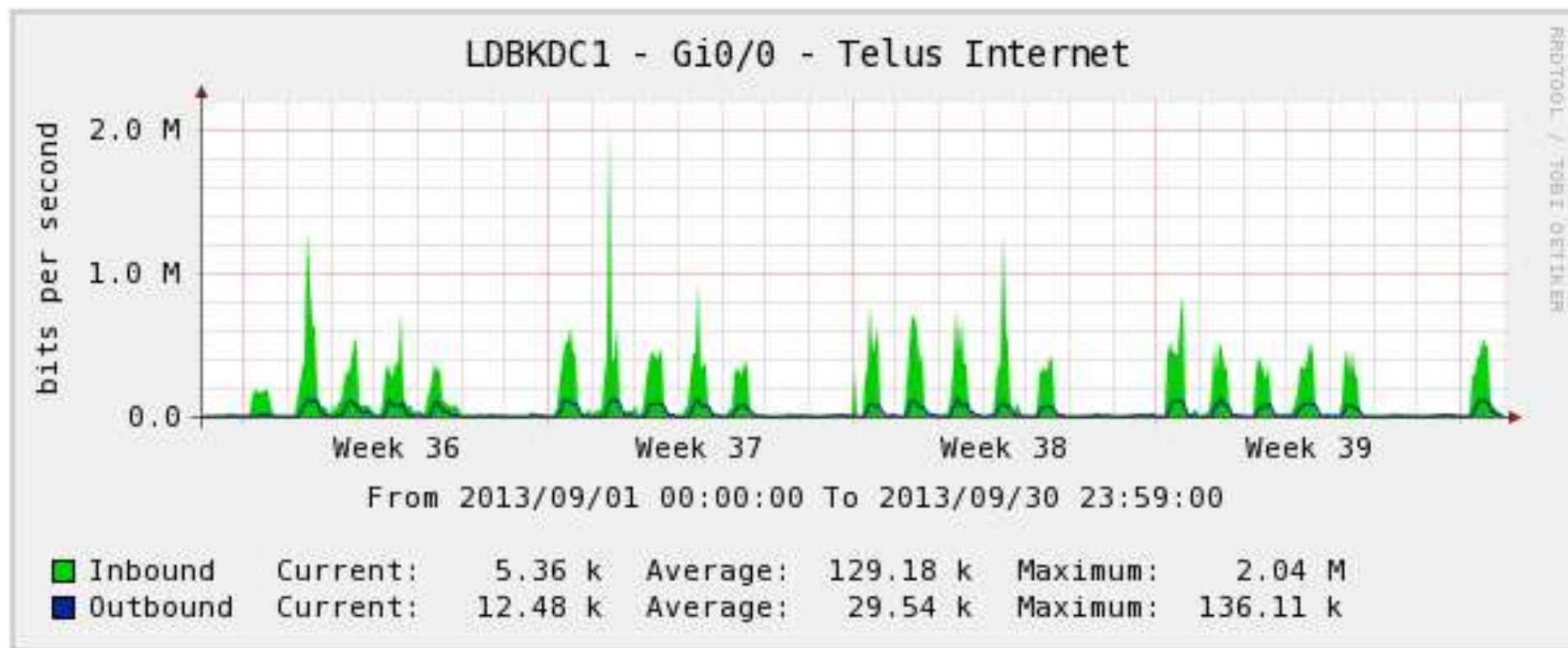## For Corporate and Stores Email and Government websites communications

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- September 2013

For WEB Browsing and other external business communications

LDBKDC1 - Gi0/0 - Telus Internet

bits per second

2.0 M

1.0 M

0.0

Week 36   Week 37   Week 38   Week 39

From 2013/09/01 00:00:00 To 2013/09/30 23:59:00

■ Inbound	Current:	5.36 k	Average:	129.18 k	Maximum:	2.04 M
■ Outbound	Current:	12.48 k	Average:	29.54 k	Maximum:	136.11 k

RRDTOOL / TOBI OETIKER

Summary: Graphical view of Kamloops Distribution Internet data communications. The maximum capacity is 10Mbps.
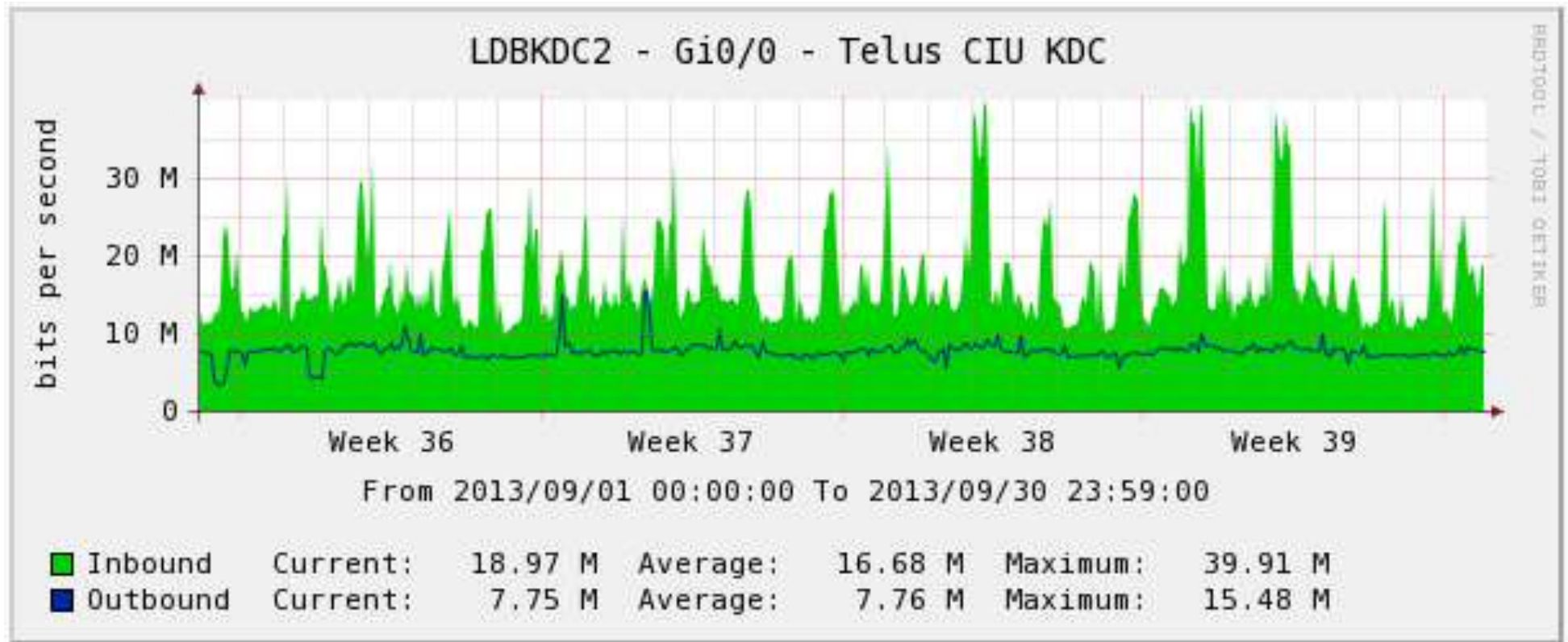
Observation: Minimal use. Can be leveraged for internet facing business requirements such as Lottery transactions

Recommendation: Not applicable

Monthly Kamloops, Distribution Private Network Gateway – September 2013

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

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 – September 2013

For Corporate and Stores Email and Government websites communications
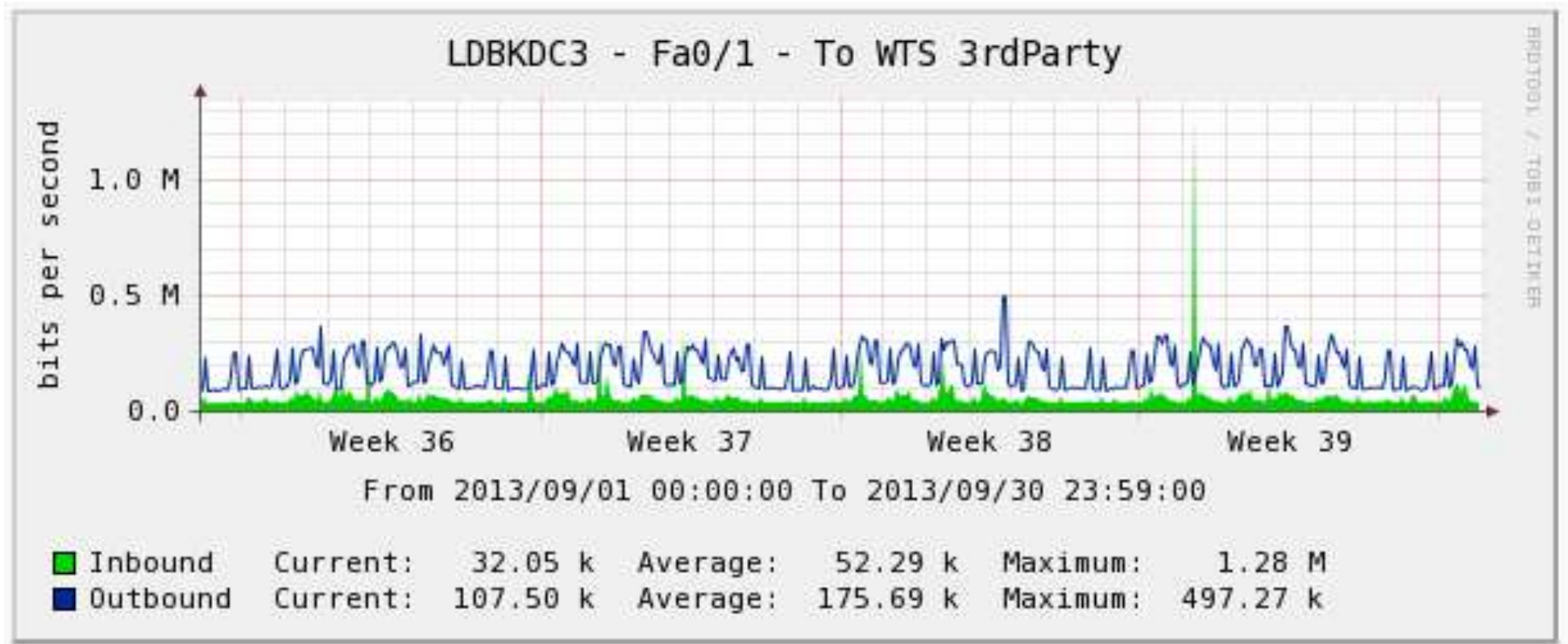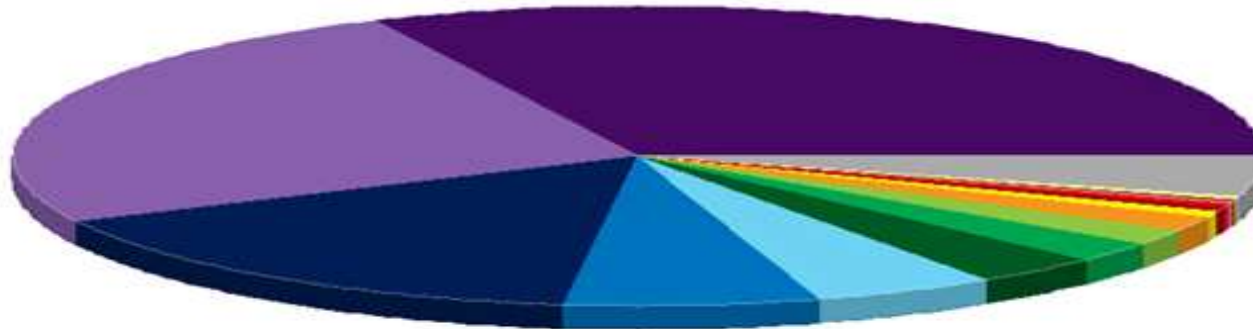

Summary: Graphical view of Kamloops, Distribution and Provincial government data communications. The maximum capacity is 10 Mbps.

Observation: Minimal use

Recommendation: Not applicable

VDC WAN Optimized Traffic Summary - September 2013

Period:
(Custom) ▼

Type:
Optimized ▼

Traffic:
Bi-Directional ▼

Refresh:
Off ▼

Go

Start Time:
2013/09/01 00:00:00

End Time:
2013/10/01 00:00:00

	Port	Reduction	LAN Data	WAN Data	Traffic %
	Total Optimized Traffic	(59.86%)	6605.1 GB	2651.5 GB	--
	902 (VMware ESXi)	(81.03%)	2126.5 GB	403.3 GB	32.20%
	1521 (Oracle Database)	(72.53%)	1676.2 GB	460.4 GB	25.38%
	9002 (Pelco DVR)	(0.00%)	1047.7 GB	1059.8 GB	15.86%
	1522 (Oracle Database)	(74.66%)	447.7 GB	113.4 GB	6.78%
	8779 (Windows Server File Transfer)	(81.90%)	323.9 GB	58.6 GB	4.90%
	18184 (CheckPoint FW)	(0.00%)	224.4 GB	230.5 GB	3.40%
	8014 (Symantec Endpoint Protection)	(93.37%)	152.5 GB	10.1 GB	2.31%
	445 (Windows Server File Transfer)	(84.79%)	120.9 GB	18.4 GB	1.83%
	1433 (SQL Database)	(69.06%)	120.3 GB	37.2 GB	1.82%
	80 (Web Traffic)	(83.29%)	51.2 GB	8753.3 MB	0.77%
	1524 (Oracle Database)	(0.00%)	48.7 GB	56.7 GB	0.74%
	257 (CheckPoint FW)	(0.00%)	32.8 GB	34.3 GB	0.50%
	1159 (Oracle Database)	(0.59%)	27.8 GB	27.6 GB	0.42%
	24158 (Windows Server Management)	(6.85%)	26.2 GB	24.4 GB	0.40%
	55059 (Unknown)	(69.48%)	21.3 GB	6665.7 MB	0.32%
	1026 (Microsoft DCOM)	(0.00%)	19.1 GB	19.4 GB	0.29%
	7777 (cbt)	(88.64%)	18.1 GB	2111.1 MB	0.27%

Data Reduction

Average: 58.9%
Peak: 89.7%
2.4x capacity increase

☑ **LAN Throughput**

Total: 7.3 TB

☑ **WAN Throughput**

Total: 3.0 TB

4.3 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 62.2% resulting in a traffic decrease of 4.8 TB

Recommendation: Not applicable

KDC WAN Optimized Traffic Summary - September 2013

Period: (Custom)
Type: Optimized
Traffic: Bi-Directional
Refresh: Off
[Go]

Start Time:
2013/09/01 00:00:00

End Time:
2013/10/01 00:00:00

	Port	Reduction	LAN Data	WAN Data	Traffic %
	Total Optimized Traffic	(60.28%)	6673.9 GB	2650.7 GB	--
	902 (VMware ESXi)	(81.03%)	2126.3 GB	403.3 GB	31.86%
	1521 (Oracle Database)	(72.53%)	1676.1 GB	460.4 GB	25.11%
	9002 (Pelco DVR)	(0.00%)	1047.7 GB	1059.8 GB	15.70%
	1522 (Oracle Database)	(74.66%)	447.7 GB	113.4 GB	6.71%
	8779 (Windows Server File Transfer)	(82.65%)	337.8 GB	58.6 GB	5.06%
	18184 (CheckPoint FW)	(0.00%)	224.4 GB	230.4 GB	3.36%
	445 (Windows Server File Transfer)	(89.51%)	175.4 GB	18.4 GB	2.63%
	8014 (Symantec Endpoint Protection)	(93.37%)	152.5 GB	10.1 GB	2.28%
	1433 (SQL Database)	(69.05%)	120.3 GB	37.2 GB	1.80%
	80 (Web Traffic)	(85.23%)	57.9 GB	8752.4 MB	0.87%
	1524 (Oracle Database)	(0.00%)	48.6 GB	56.7 GB	0.73%
	257 (CheckPoint FW)	(0.00%)	32.8 GB	34.3 GB	0.49%
	1159 (Oracle Database)	(0.00%)	27.0 GB	27.4 GB	0.41%
	24158 (Windows Server Management)	(6.85%)	26.2 GB	24.4 GB	0.39%
	55059 (Unknown)	(69.49%)	21.2 GB	6624.4 MB	0.32%
	1026 (Microsoft DCOM)	(0.00%)	19.1 GB	19.4 GB	0.29%
	7777 (cbt)	(88.64%)	18.1 GB	2110.3 MB	0.27%
	135 (EPM)	(48.75%)	16.8 GB	8804.7 MB	0.25%
	57119 (Unknown)	(0.00%)	13.1 GB	13.7 GB	0.20%
	49612 (Unknown)	(57.55%)	12.2 GB	5299.0 MB	0.18%
	49154 (Unknown)	(16.01%)	11.1 GB	9560.0 MB	0.17%
	18190 (Unknown)	(0.00%)	8071.4 MB	8439.0 MB	0.12%
	5989 (wbem-https)	(0.00%)	5946.4 MB	6099.1 MB	0.09%

Data Reduction
Average: 59.4%
Peak: 89.7%
2.5x capacity increase

☑ **LAN Throughput**
Total: 7.4 TB

☑ **WAN Throughput**
Total: 3.0 TB

4.4 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 62.9% resulting in a traffic decrease of 4.9 TB

Recommendation: Not applicable

VDCGTM – VDC Global Traffic Manager Availability September 2013

GTM is used for DNS Load Balancing

Zoom | 1h | 12h | 24h |
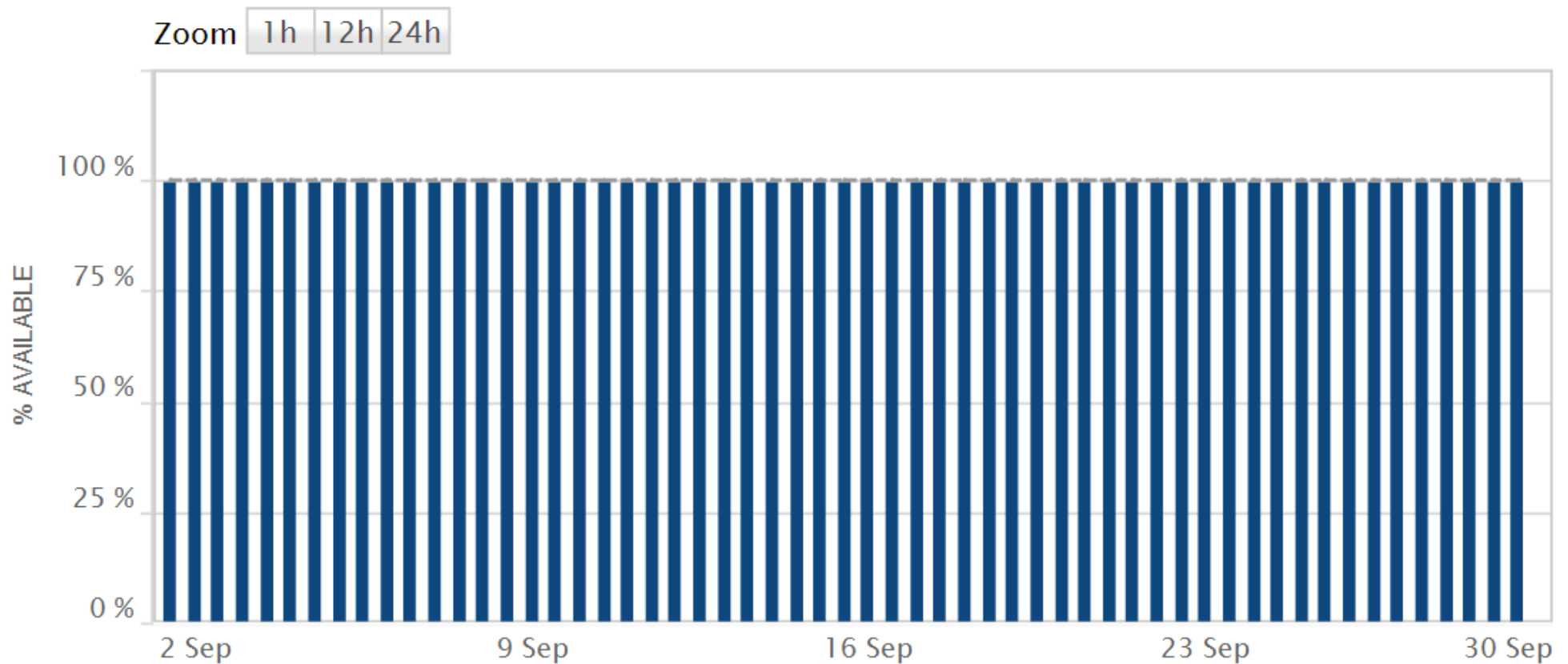
Summary: High level graphical view of VDC GTM Availability for the month of September 2013.

Observation: None

Recommendation: Not applicable

KDCGTM – VDC Global Traffic Manager Availability September 2013

GTM is used for DNS Load Balancing

Zoom 1h 12h 24h
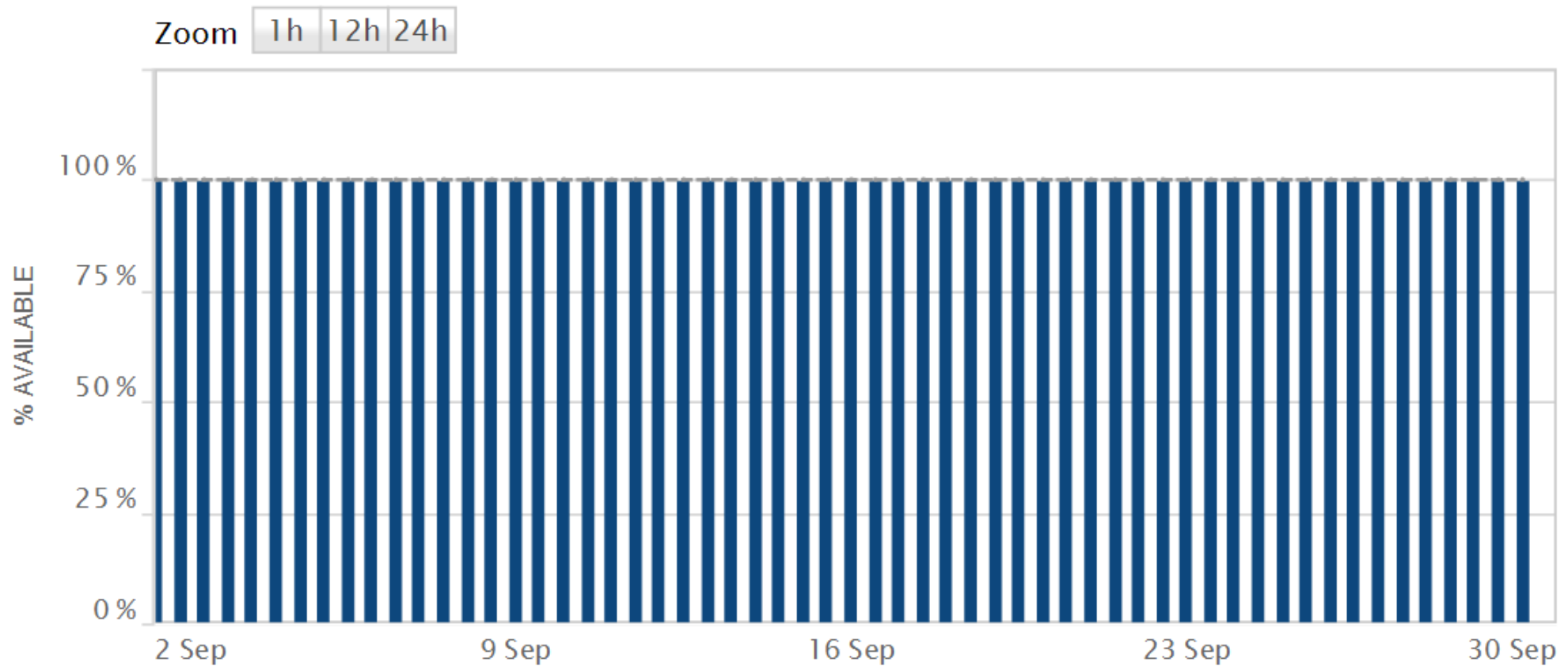
Summary:		High level graphical view of KDC GTM Availability for the month of September 2013.
Observation:		None
Recommendation:		Not applicable

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

# of Occurances (workdays only)

Legend Summary

Red = Application not available or system not available

Yellow = Limited availablity of Application

Green = No Application issues

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 (SC1A), 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

Key Applications

Summary: High level graphical view of Business Applications availability.

Observation: In September there were no significant issues.

Recommendation: Not applicable

WebStore Availability September 2013
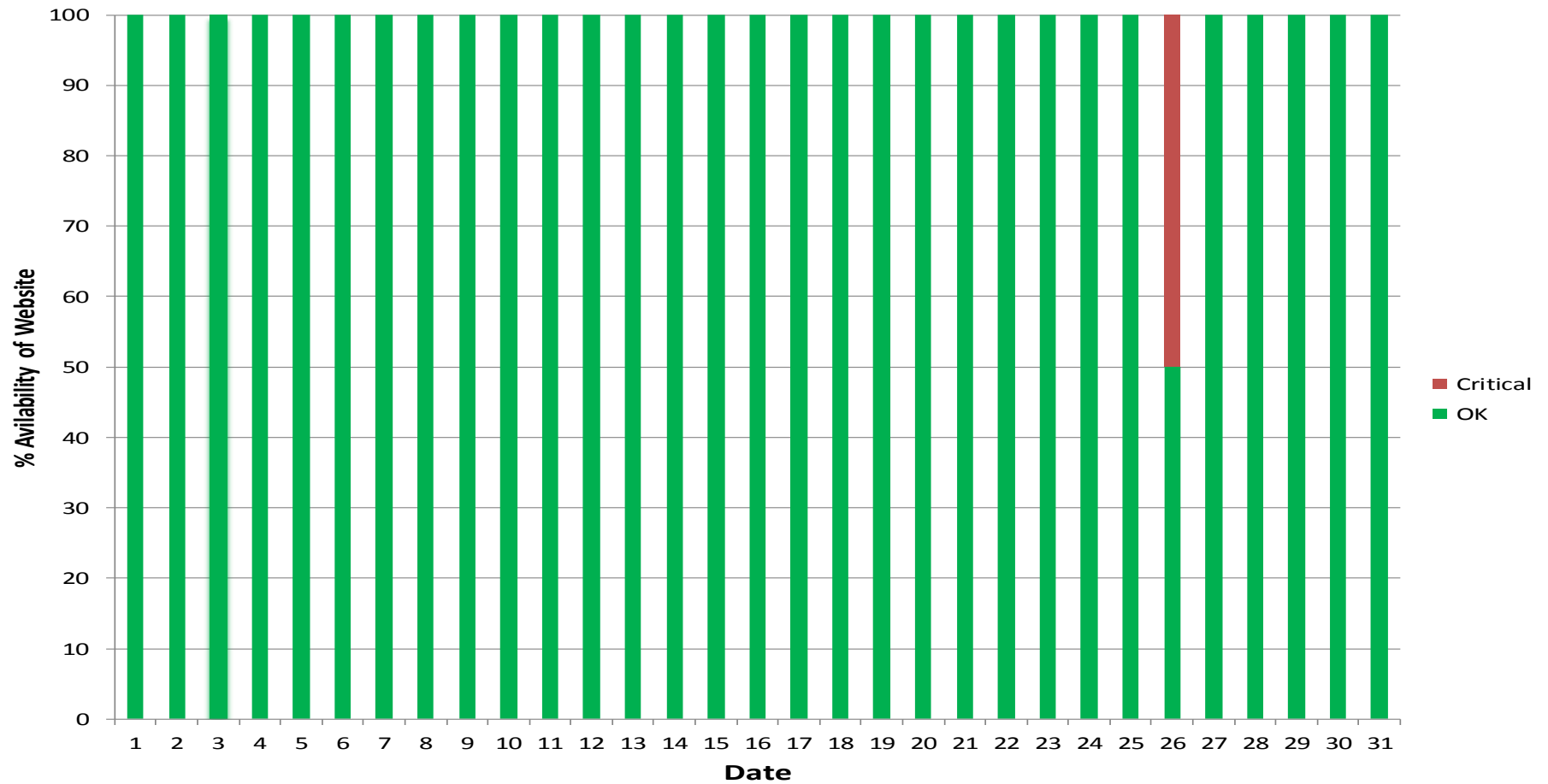
Summary: High level graphical view of Webstore's Availability for the month of September 2013.

Observation: There was one issue with Webstore in the month of September, please see BMC # 557176 for further details.

Recommendation: Not applicable

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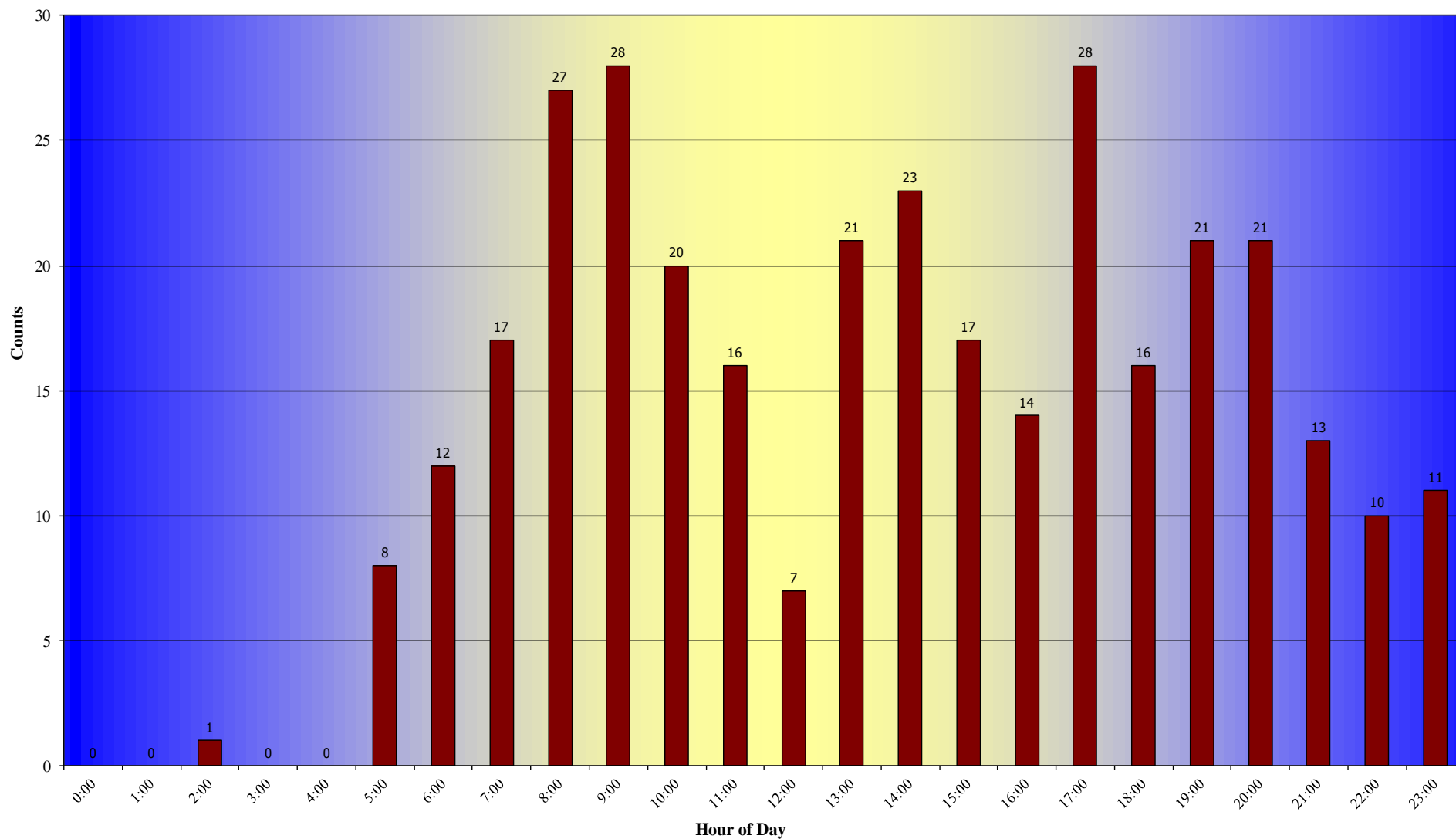
Summary: High level graphical view of Users remotely accessing Head Office resources in the Weekdays shown in hours of the day for the month of September.

Observation: More people accessing Head Office resources in the morning (7am – 10am) versus in the afternoon (between 1pm – 8pm).

Recommendation: Not applicable

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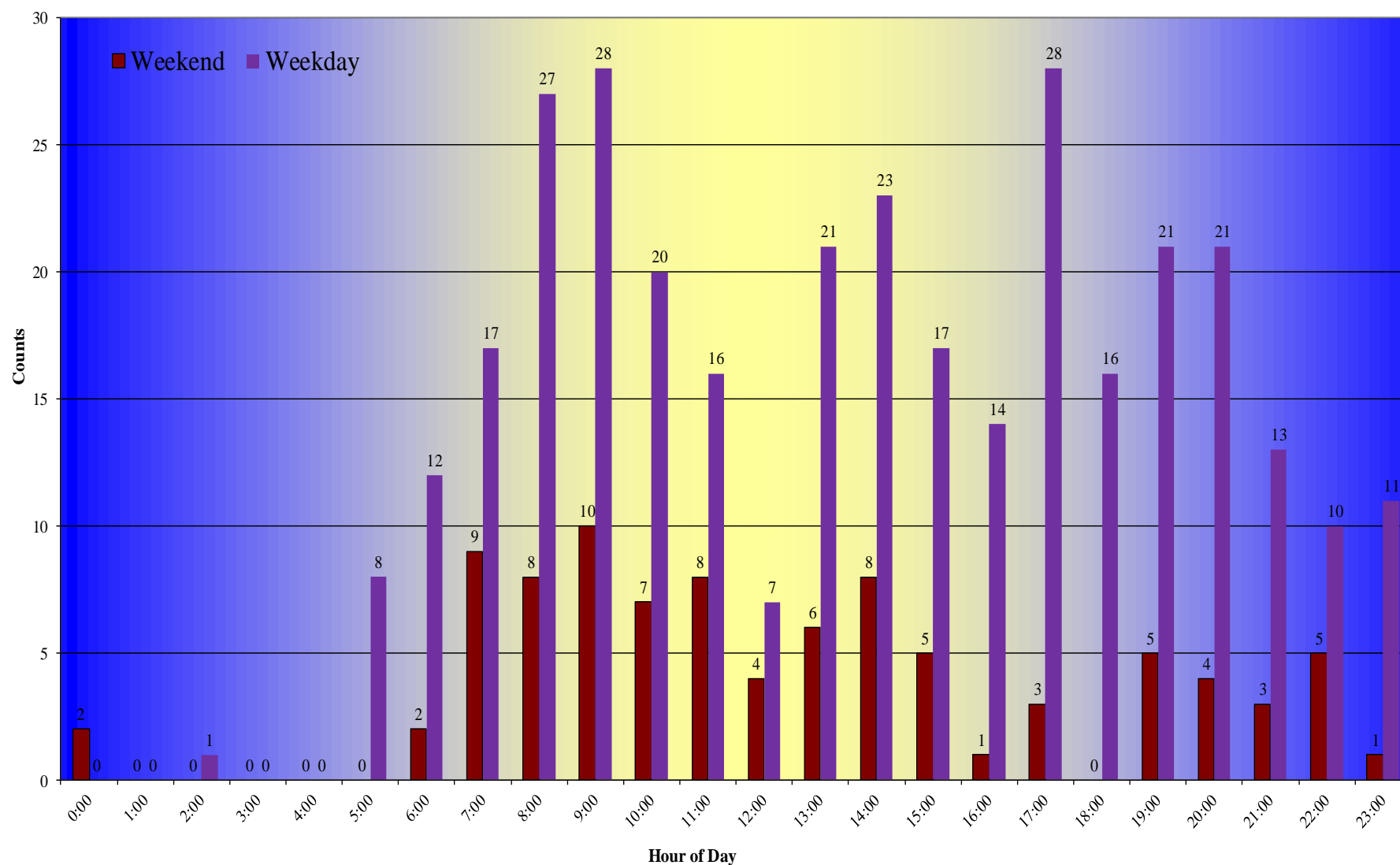
Summary: High level graphical view of Users remotely accessing Head Office resources on the Weekend vs Weekday shown in hours of the day for the month of September.

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) – September 2013

Legend:
- VDC (Server1) - Total daily backup amount
- KDC (Server2) - Total daily backup amount
- Trend Line
- Trend Line
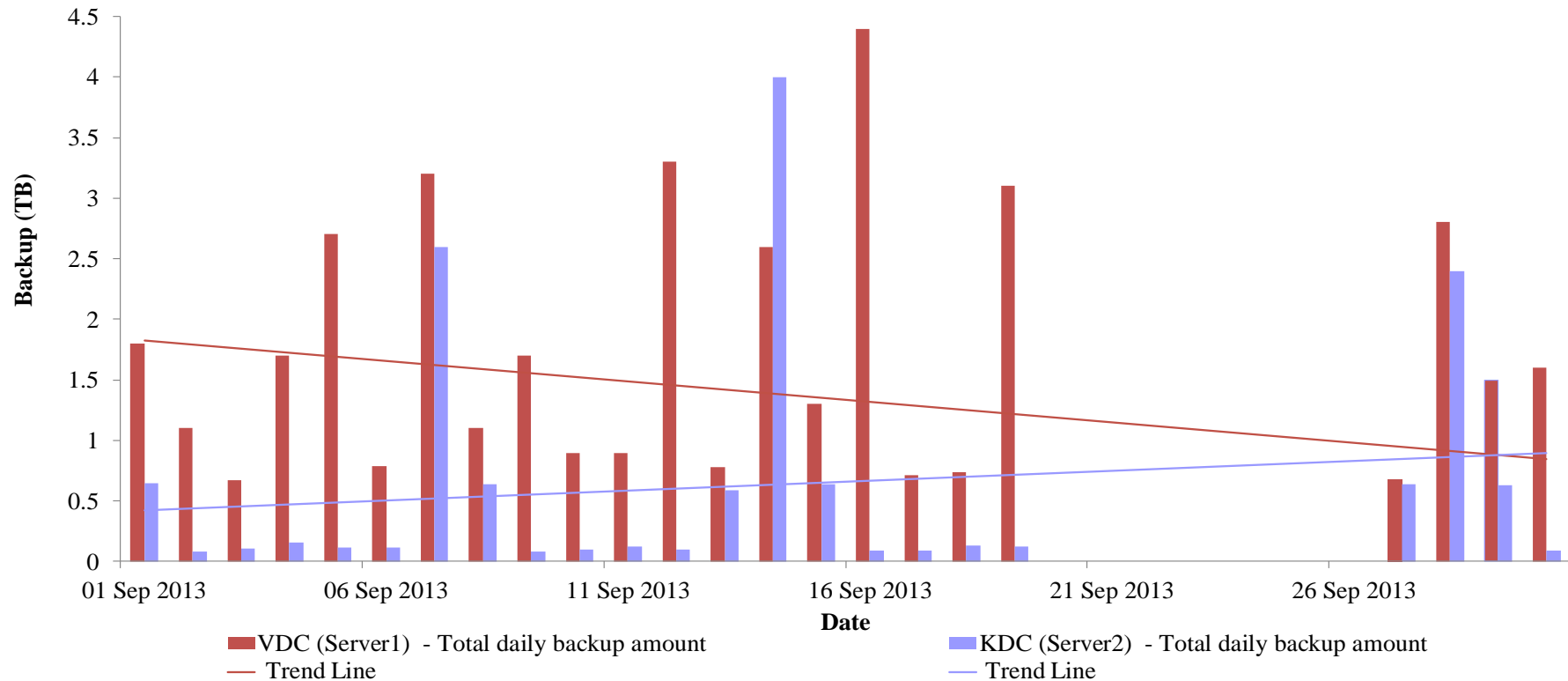
Summary: High level graphical view graphical view of TSM Daily Backup for the month of September.

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 September 16th – Both KDC and VDC had over 4.4TB of SAN storage data backed up by TSM on to tape.
The session between VDC/KDC TSM and ldbvranger had briefly stopped working. A reboot was required on September 27th to get the session active again.

Recommendation: Not applicable

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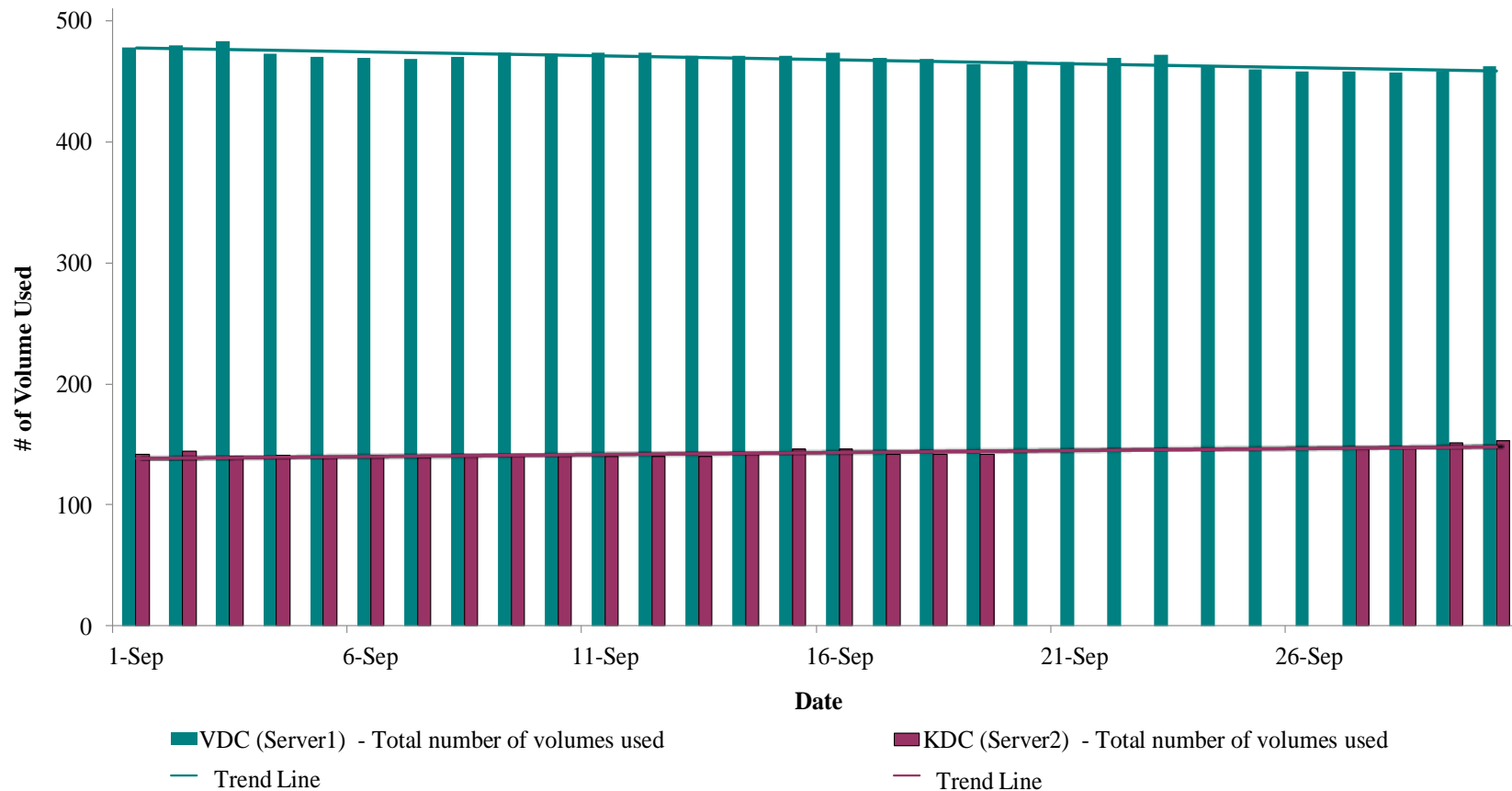
Summary: High level graphical view of TSM using the number of volumes in a day for the month of September.

Observation: The VDC library has 253 tape slots and 217 of them are in use. The KDC library has 125 tape slots and 124 of them are in use. This also includes Tapes that off site at Iron Mountain.
The session between VDC/KDC TSM and ldbvranger had briefly stopped working. A reboot was required on September 27th to get the session active again.

Recommendation: Not applicable

Total Schedule Success Rate – September 2013

% Success Rate (y-axis)

Date (x-axis)

Legend:
- VDC (Server1) - Total schedule success rate
- KDC (Server2) - Total schedule success rate
- Trend Line
- Trend Line
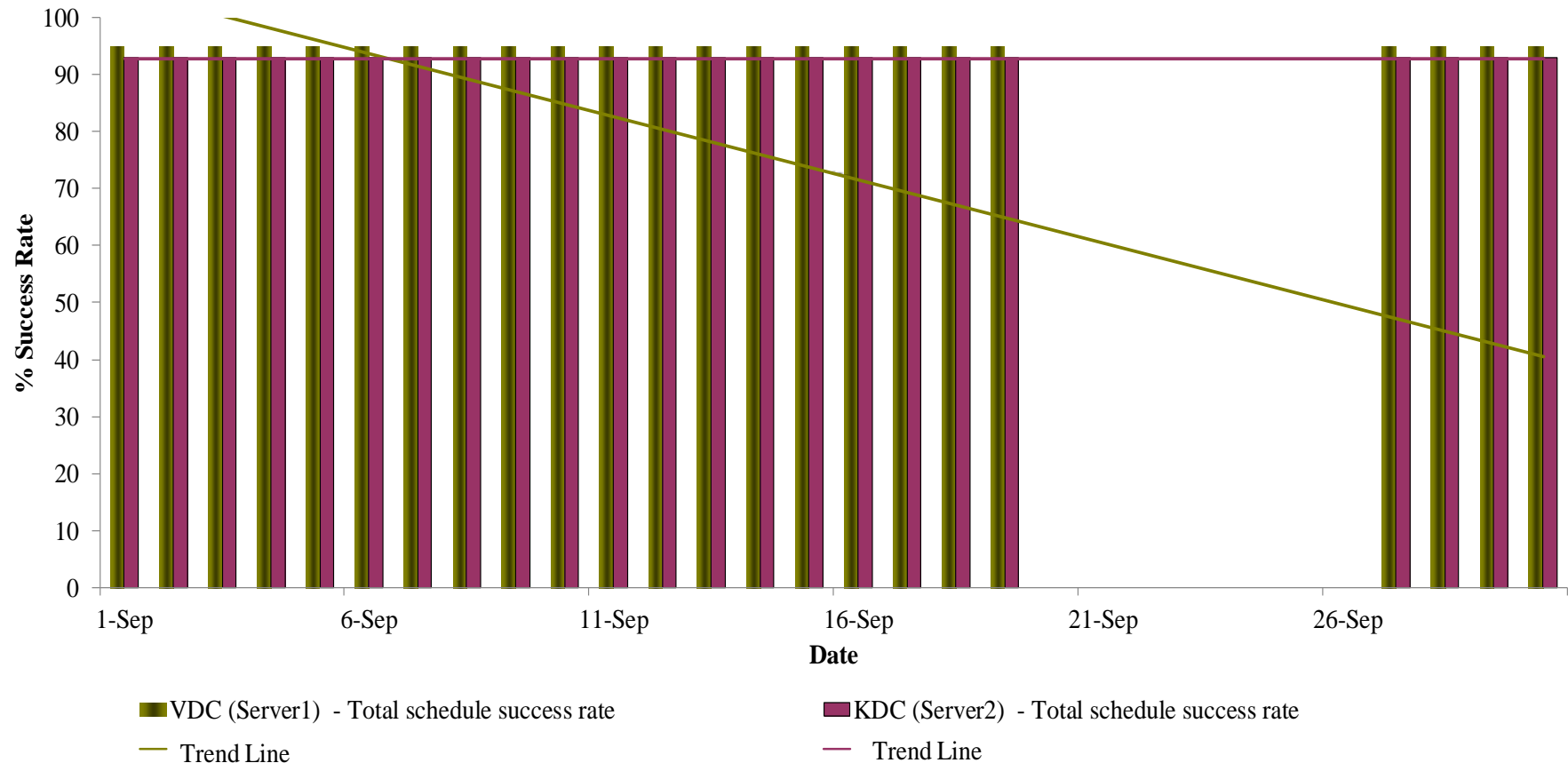
Summary: High level graphical view of TSM being successful in completing the backups on a daily basis for the month of September.

Observation: Continue to work on the resolution for the failures. The session between VDC/KDC TSM and ldbvranger had briefly stopped working. A reboot was required on September 27th
to get the session active again.

Recommendation: Not applicable

Daily TSM Utilization (%) – September 2013

% in Use (y-axis) vs **Date** (x-axis)

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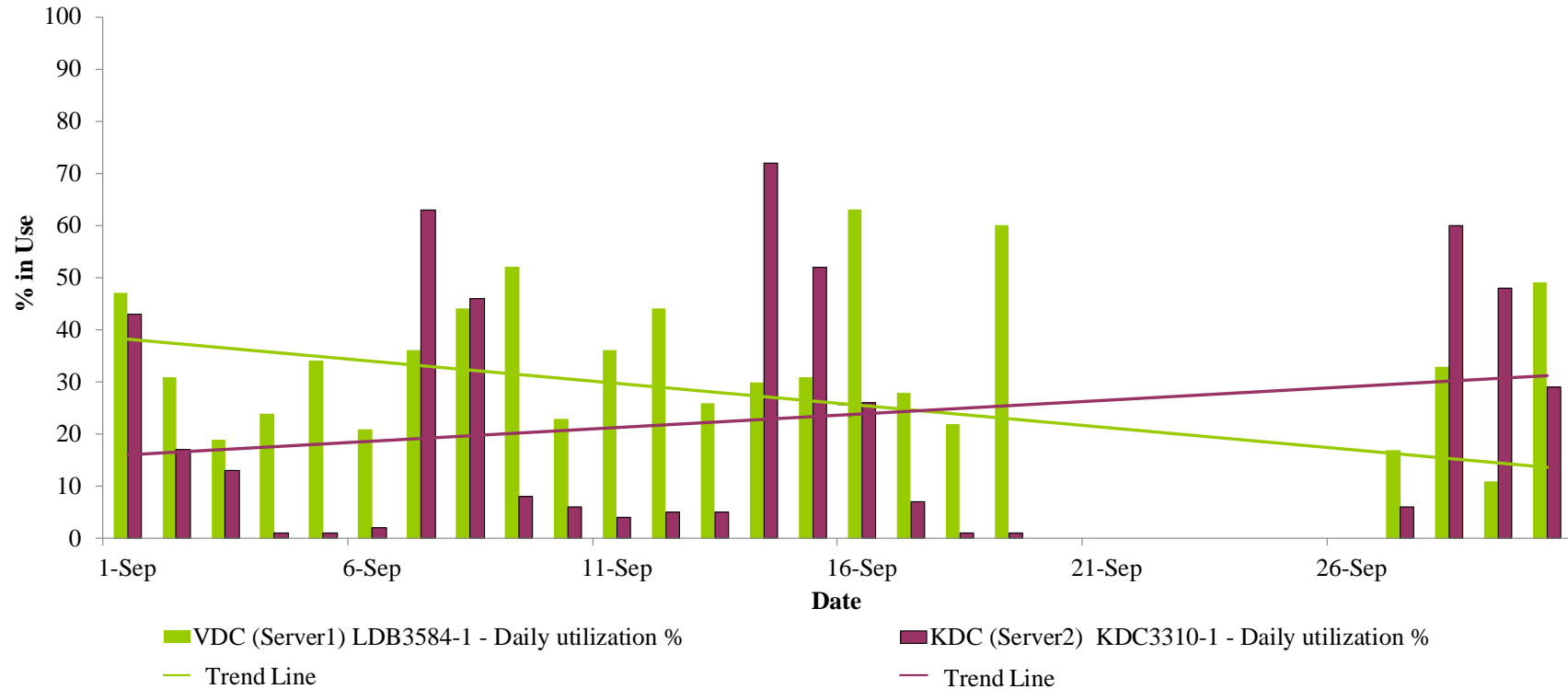
Summary: High level graphical view of TSM Tapes being mounted each day for the month of September.

Observation: TSM is highly utilized on the weekends. Two times KDC TSM was more utilized versus VDC TSM.
The session between VDC/KDC TSM and ldbvranger had briefly stopped working. A reboot was required on September 27th
to get the session active again.

Recommendation: Not applicable

Network Service Statistics
Summary

Totals	Target	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
Tickets closed		93	118	72	80	56	84	44	50	46	68	42	61
Completed on time		90	116	72	79	54	84	44	49	45	67	41	59
% Completed on time	90%	97%	98%	100%	99%	96%	100%	100%	98%	98%	99%	98%	97%
Internal													
Tickets closed		49	74	42	60	30	57	36	42	31	49	33	51
Completed on time		48	73	42	59	29	57	36	42	31	49	32	49
% Completed on time	90%	98%	99%	100%	98%	97%	100%	100%	100%	100%	100%	97%	96%
External (SSBC service)													
Tickets closed		44	44	30	20	26	27	8	8	15	19	9	10
Completed on time		42	43	30	20	25	27	8	7	14	18	9	10
% Completed on time	90%	95%	98%	100%	100%	96%	100%	100%	88%	93%	95%	100%	100%

Tickets Closed
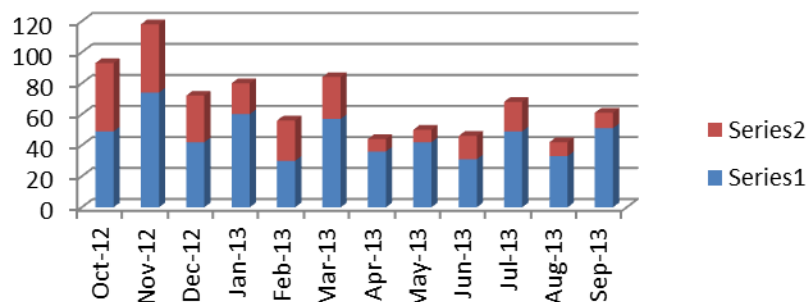
% Completed on Time
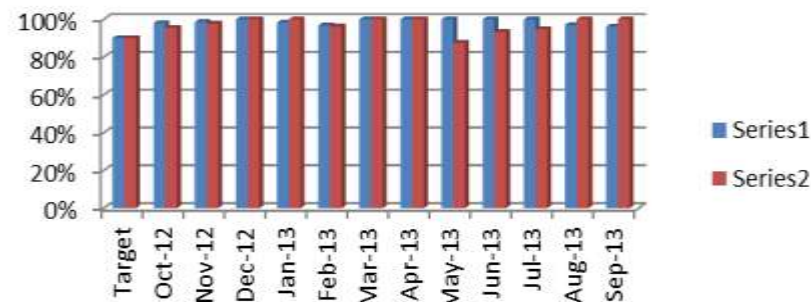
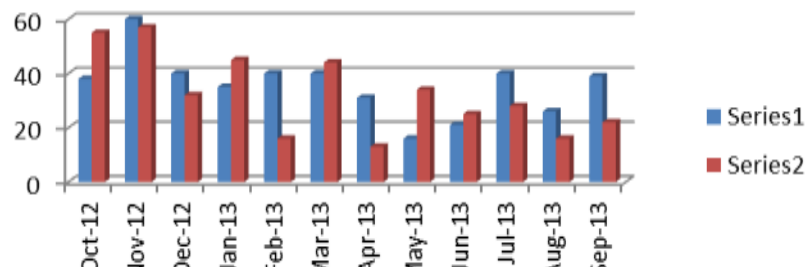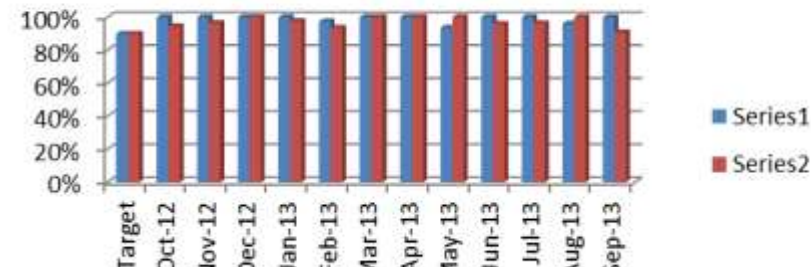Tickets Closed by Type

% Completed on Time

Network Service Statistics
Summary

Voice	Target	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
Tickets closed		38	61	40	35	40	40	31	16	21	40	26	39
Completed on time		38	61	40	35	39	40	31	15	21	40	25	39
% Completed on time	90%	100%	100%	100%	100%	98%	100%	100%	94%	100%	100%	96%	100%
Internal													
Tickets closed		12	35	20	21	19	16	26	11	10	24	20	29
Completed on time		12	35	20	21	19	16	26	11	10	24	19	29
% Completed on time	90%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	95%	100%
External (SSBC service)													
Tickets closed		26	26	20	14	21	24	5	5	11	16	6	10
Completed on time		26	26	20	14	20	24	5	4	11	16	6	10
% Completed on time	90%	100%	100%	100%	100%	95%	100%	100%	80%	100%	100%	100%	100%

Data	Target	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
Tickets closed		55	57	32	45	16	44	13	34	25	28	16	22
Completed on time		52	55	32	44	15	44	13	34	24	27	16	20
% Completed on time	90%	95%	96%	100%	98%	94%	100%	100%	100%	96%	96%	100%	91%
Internal													
Tickets closed		37	39	22	39	11	41	10	31	21	25	13	22
Completed on time		36	38	22	38	10	41	10	31	21	25	13	20
% Completed on time	90%	97%	97%	100%	97%	91%	100%	100%	100%	100%	100%	100%	91%
External (SSBC service)													
Tickets closed		18	18	10	6	5	3	3	3	4	3	3	0
Completed on time		16	17	10	6	5	3	3	3	3	2	3	0
% Completed on time	90%	89%	94%	100%	100%	100%	100%	100%	100%	75%	67%	100%	100%

Network Service Statistics
Head Office Details

HO Voice	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
Tickets closed	29	48	30	22	31	32	27	13	15	34	21	32
Completed on time	29	48	30	22	31	32	27	12	15	34	20	32
% Completed on time	100%	100%	100%	100%	100%	100%	100%	92%	100%	100%	95%	100%
Internal												
Tickets closed	11	26	14	12	16	10	24	10	5	19	17	24
Completed on time	11	26	14	12	16	10	24	10	5	19	16	24
% Completed on time	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	94%	100%
External (SSBC service)												
Tickets closed	18	22	16	10	15	22	3	3	10	15	4	8
Completed on time	18	22	16	10	15	22	3	2	10	15	4	8
% Completed on time	100%	100%	100%	100%	100%	100%	100%	67%	100%	100%	100%	100%

HO Data	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
Tickets closed	16	15	13	18	6	18	10	6	9	10	7	4
Completed on time	16	15	13	18	5	18	10	6	9	10	7	4
% Completed on time	100%	100%	100%	100%	83%	100%	100%	100%	100%	100%	100%	100%
Internal												
Tickets closed	16	12	9	17	6	17	8	5	9	9	7	4
Completed on time	16	12	9	17	5	17	8	5	9	9	7	4
% Completed on time	100%	100%	100%	100%	83%	100%	100%	100%	100%	100%	100%	100%
External (SSBC service)												
Tickets closed	0	3	4	1	0	1	2	1	0	1	0	0
Completed on time	0	3	4	1	0	1	2	1	0	1	0	0
% Completed on time	0%	100%	100%	100%	0%	100%	100%	100%	0%	100%	0%	0%

Network Service Statistics
Branch Details

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

Branch Data	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
Tickets closed	39	42	19	27	10	26	3	28	16	18	9	18
Completed on time	36	40	19	26	10	26	3	28	15	17	9	16
% Completed on time	92%	95%	100%	96%	100%	100%	100%	100%	94%	94%	100%	89%
Internal												
Tickets closed	21	27	13	22	5	24	2	26	12	16	6	18
Completed on time	20	26	13	21	5	24	2	26	12	16	6	16
% Completed on time	95%	96%	100%	95%	100%	100%	100%	100%	100%	100%	100%	89%
External (SSBC service)												
Tickets closed	18	15	6	5	5	2	1	2	4	2	3	0
Completed on time	16	14	6	5	5	2	1	2	3	1	3	0
% Completed on time	89%	93%	100%	100%	100%	100%	100%	100%	75%	50%	100%	0%

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
08-Jul-13	02-Jul-13	543659	Store	Data	Telus was delayed in finding problem
27-Aug-13	20-Aug-13	551323	Head Office	Voice	Not a network issue. Problem solved by client computing

September 2013

End of Data Centre Chart Analysis