Live Meeting Connectivity Report

For: xxxxxxxxx

Location: Marriott World Center, Orlando, FL

Dates: xxxxxxxxx, 2013

Executive Summary

The purpose of this report is to give a high-level overview of the network connectivity provided by C3-Wireless to understand how the network was actually used versus expectations to assist in future network planning.
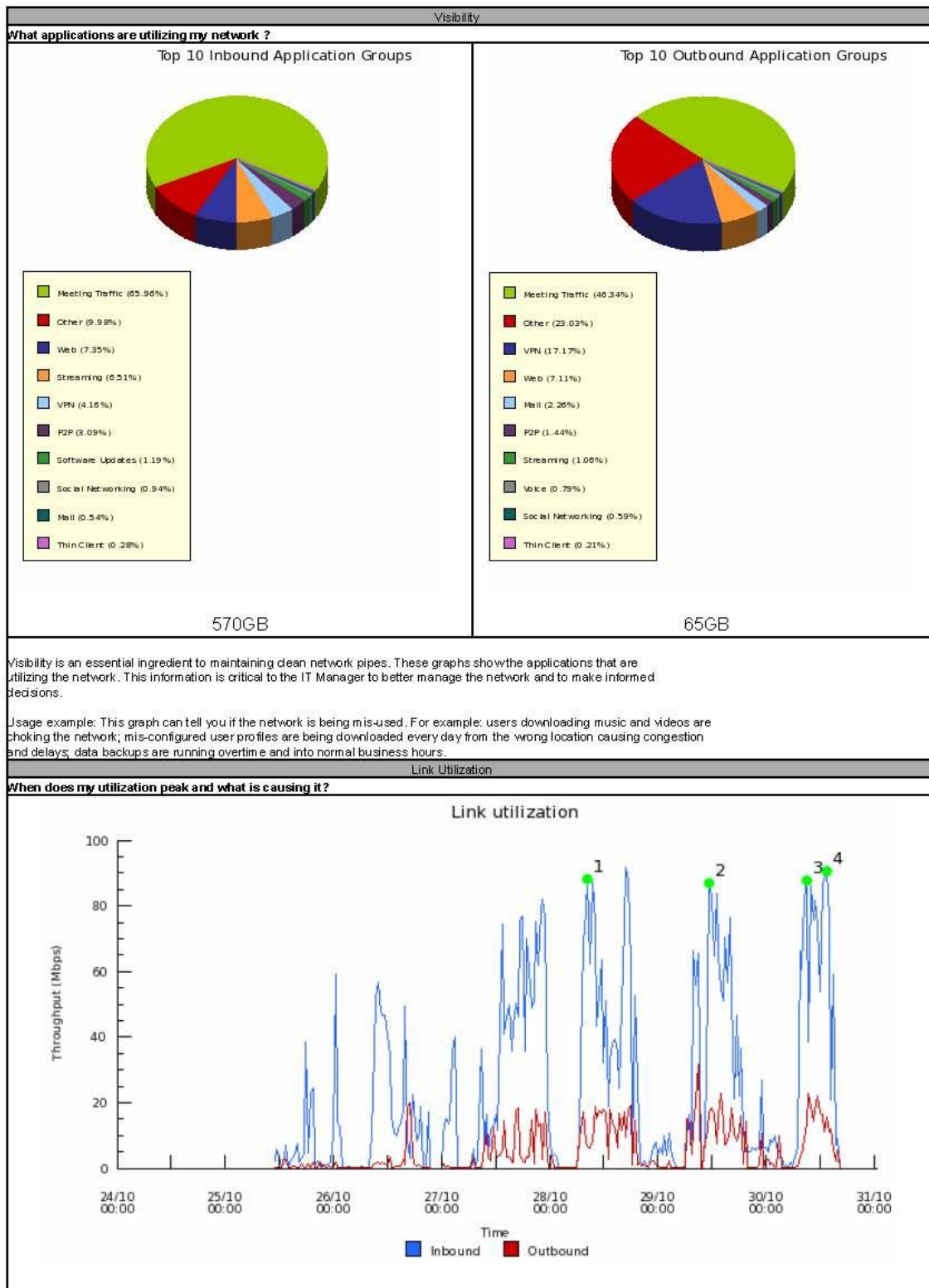
Summary

For the week, the xxxxxx meeting had 570 GB of inbound traffic, and 65 GB of outbound traffic. More than 75% of the inbound traffic was meeting-specific traffic. The amount of inbound traffic was significantly reduced by two things. First, the meeting application used a local server to download application content, and second, edge caching allowed cached downloads such as Apple updates to be downloaded locally.

Throughput exceeded 90Mbps each day, with the majority of the traffic coming from IOS updates, or meeting-centric data. Of the 570 GB downloaded, 62 GB was classified as recreational traffic. 23% of the time, meeting-centric traffic was prioritized over less-critical data requests such as video streaming, etc.
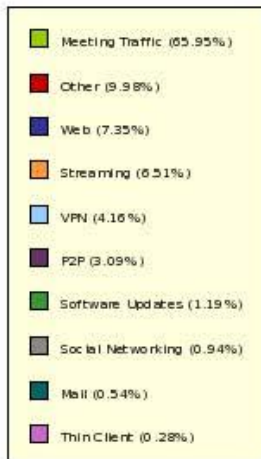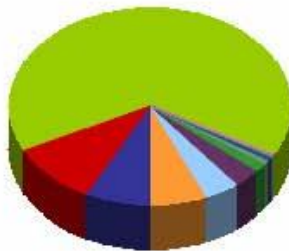
More than 1300 wireless clients associated each day, with the maximum client association count topping out around 1875 concurrent wireless users.
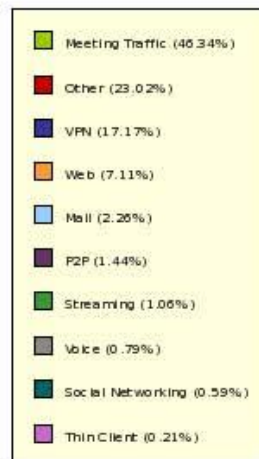
Visibility

What applications are utilizing my network ?

Top 10 Inbound Application Groups

- Meeting Traffic (65.96%)
- Other (9.98%)
- Web (7.35%)
- Streaming (6.51%)
- VPN (4.16%)
- P2P (3.09%)
- Software Updates (1.19%)
- Social Networking (0.94%)
- Mail (0.54%)
- Thin Client (0.28%)

570GB

Top 10 Outbound Application Groups

- Meeting Traffic (46.34%)
- Other (23.03%)
- VPN (17.17%)
- Web (7.11%)
- Mail (2.26%)
- P2P (1.44%)
- Streaming (1.06%)
- Voice (0.79%)
- Social Networking (0.59%)
- Thin Client (0.21%)

65GB

Visibility is an essential ingredient to maintaining clean network pipes. These graphs show the applications that are utilizing the network. This information is critical to the IT Manager to better manage the network and to make informed decisions.

Usage example: This graph can tell you if the network is being mis-used. For example: users downloading music and videos are choking the network; mis-configured user profiles are being downloaded every day from the wrong location causing congestion and delays; data backups are running overtime and into normal business hours.

Link Utilization

When does my utilization peak and what is causing it ?

Link utilization

1	Application	Hosts	Rate
	iTunes	172.16.127.41 / 72.164.252.106	19276.129 kbps
	iTunes	172.16.127.190 / 23.73.180.104	16081.482 kbps
	iTunes	172.16.121.143 / 23.73.180.248	16079.173 kbps
			28 Oct 13 08:30AM

2	Application	Hosts	Rate
	iTunes	172.16.125.120 / 72.164.252.129	23097.856 kbps
	iTunes	172.16.121.214 / 184.26.143.104	13561.995 kbps
	iTunes	172.16.121.214 / 184.26.143.114	8368.143 kbps
			29 Oct 13 11:30AM

3	Application	Hosts	Rate
	iTunes	172.16.130.17 / 23.73.180.251	13070.868 kbps
	iTunes	172.16.127.87 / 23.73.180.218	7022.868 kbps
	iTunes	172.16.127.87 / 23.73.181.17	5737.665 kbps
			30 Oct 13 09:00AM

4	Application	Hosts	Rate
	iTunes	172.16.122.142 / 72.164.252.123	25898.187 kbps
	iTunes	172.16.126.201 / 72.164.252.88	17724.879 kbps
	Skype	172.16.130.239 / 23.33.186.26	14273.284 kbps
			30 Oct 13 01:30PM

Without the right visibility and drill down capability it is very difficult to provide effective capacity planning for your network. It is important to know that the bandwidth you are paying for is what is actually being delivered, to know when the network utilization peeks and the causes of bottlenecks on your network.

Utilization graphs with conversation drill down allows you to see in one glance the symptom and causes of network bottlenecks. Without this level of visibility IT professionals may mistakenly treat the symptoms (e.g. buy more bandwidth) instead of addressing the cause which is a short term solution at best.

Recreational

How much recreational usage is there?

Application	Hosts	Time	Data
	1679	9h 13m 10s	62GB
Games	50	16m 50s	590MB
Instant Messaging	1346	2h 53m 40s	181MB
P2P	4	2h 43m 50s	18GB
Social Networking	744	52m 10s	5837MB
Streaming	302	2h 26m 40s	37GB

Having visibility into key recreational applications is the first step in being able to manage them. These applications are generally undesirable because they can impact the performance of key business applications, negatively impact customer experience, reduce the productivity of users, introduce viruses to the network and enable downloading of illegal or copyrighted material.

Prioritization

How often were my critical applications prioritized?

Prioritization Rate: 22.9%

This ratio tells you how often critical applications were prioritized (also referred to re-ordering or re-queuing). A high percentage means that the system is prioritizing more often to ensure performance for your applications. A high percentage also means that by turning off optimization there is a higher probability that your critical applications will suffer.

Prioritization Ratio = number of packets re-ordered / number of total packets.

For example: A ratio of 40% means 40% of the packets on your network were re-ordered. That means that non critical data was queued so that business critical data could jump the queue and be delivered in the order that the business requires.

Time Savings					
How much time is my optimization saving?					
	Application	**Before**	**After**	**Saving**	**%**
	iTunes	25h58m	25h27m	30m	1%
	Apple Updates	18m	13m	5m	29%
	HTTP	7h16m	6h32m	45m	10%
	MPEG	2h57m	2h55m	1m	0%
	Total	**36h29m**	**35h07m**	**1h21m**	**3%**

This table shows the improvement in transfer time due to WAN optimization. Before optimization is the time it would have taken to transfer the applications data without the benefit of Exinda WAN optimization technology. After optimization is the actual time it took to send the application data with Exinda WAN optimization technology.
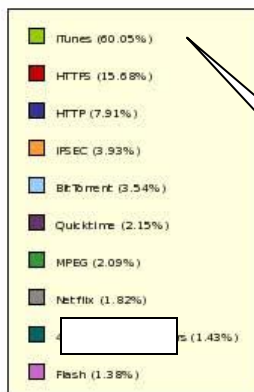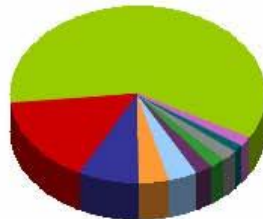
Top 10 Inbound Application Groups
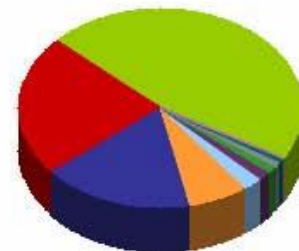
- Meeting Traffic (65.95%)
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Top 10 Outbound Application Groups

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- Voice (0.79%)
- Social Networking (0.59%)
- Thin Client (0.21%)

Top 30 Inbound Application Groups					
Name	Packets	Data (MB)	Throughput (kbps)		Flows
			Average	Max	
Meeting Traffic	316373874	383199.563	547.44	46913.55	41753
Other	77504666	57979.413	119.90	30684.13	10240
Web	34838487	42720.755	146.49	57173.27	45452
Streaming	27777525	37847.719	1970.31	35811.83	1270
VPN	28105944	24161.072	80.38	11997.37	457
P2P	13817740	17927.277	318.36	6927.20	348
Software Updates	5050718	6909.805	2636.48	51482.52	467
Social Networking	4668016	5446.387	84.39	22574.68	7783
Mail	4787480	3165.492	57.89	18110.75	2982
Thin Client	1836577	1644.640	210.32	4049.70	122
File Services	790918	1144.062	6085.82	11020.91	5
	780193	946.029	145.87	1348.58	477
Voice	1330423	587.927	36.42	27020.53	485
Games	549917	549.422	635.72	22318.99	146
Instant Messaging	322468	135.240	4.42	528.15	6701
Interactive	44182	39.976	11.16	10515.16	14
Unified Communications	63	0.018	1.62	2.93	1
Exinda	3	0.000	0.17	0.17	1

Top 30 Outbound Application Groups					
Name	Packets	Data (MB)	Throughput (kbps)		Flows
			Average	Max	
Meeting Traffic	146311449	30844.822	45.29	10765.55	41518
Other	31585870	15324.564	28.63	21494.74	10258
VPN	23428085	11424.520	38.05	7892.42	458
Web	21005534	4730.294	16.15	27675.73	45389
Mail	4147869	1502.290	28.21	4933.20	2982
P2P	8386570	958.630	16.94	2209.11	348
Streaming	10372736	707.651	36.43	537.55	1270
Voice	1047831	526.483	33.50	1331.79	505
Social Networking	2375786	394.502	6.13	799.96	7780
Thin Client	1538145	142.758	18.28	1000.35	123
Software Updates	2141119	130.901	49.01	813.61	467
	645641	78.172	12.05	101.95	477
Instant Messaging	317590	45.978	1.56	394.41	6652
Games	312831	40.653	47.71	561.58	146
File Services	385622	21.350	150.78	211.43	5
Interactive	31655	2.512	0.61	75.57	17
Unified Communications	111	0.025	1.56	2.44	2
Exinda	216	0.014	0.16	0.16	39

Top 10 Inbound Applications

- iTunes (60.05%)
- HTTPS (15.68%)
- HTTP (7.91%)
- IPSEC (3.93%)
- BitTorrent (3.54%)
- Quicktime (2.15%)
- MPEG (2.09%)
- Netflix (1.82%)
- _____ (1.43%)
- Flash (1.38%)

Top 10 Applications Represent 86.58% of 584404.80 MB

Top 10 Outbound Applications

- HTTPS (43.97%)
- IPSEC (16.70%)
- Amazon Cloud (9.95%)
- iTunes (7.56%)
- _____ (5.99%)
- HTTP (4.96%)
- Box (3.51%)
- DropBox (2.49%)
- Google Encrypted (2.47%)
- isakmp (2.38%)
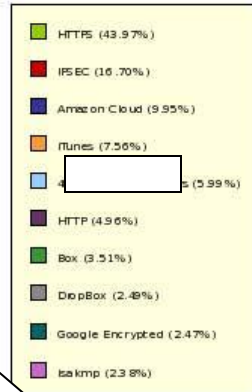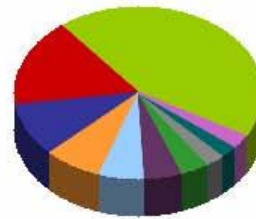
Top 10 Applications Represent 89.50% of 66876.12 MB

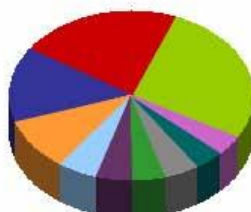| Top 30 Inbound Applications					
Name	Packets	Data (MB)	Throughput (kbps)		Flows
			Average	Max	
iTunes	227007304	303857.675	3121.14	46913.55	13613
HTTPS	89366570	79341.888	131.66	40922.86	28140
HTTP	31896134	40037.961	163.32	57173.27	39040
IPSEC	23376975	19893.723	80.07	11997.37	359
BitTorrent	13817740	17927.277	318.36	6927.20	348
Quicktime	7935074	10894.257	2751.10	25873.17	380
MPEG	7724564	10595.511	2594.87	35811.83	171
Netflix	6658527	9214.192	1605.67	8337.34	168
	10456093	7221.899	20.19	11080.58	2311
Flash	5349450	6995.452	1335.51	14298.81	492
Windows Updates	3181476	4358.624	1813.40	45422.42	407
isakmp	4727386	4267.177	82.07	6647.00	96
YouTube	3040546	4094.605	1074.41	13361.38	607
Apple Updates	1835734	2511.825	15828.36	51482.52	23
Google Encrypted	2228235	1942.335	46.50	44021.20	6077
4th Down Apps Server	1163089	1660.884	474.41	9164.25	483
Citrix	1788328	1614.602	261.97	4049.70	7
GMail	2815055	1387.747	59.25	18110.75	1197

IOS Updates accounted for more than 60% of all inbound traffic. HTTPS represents meeting-centric traffic as around 15% of all inbound traffic.

Name	Packets	Data (MB)	Throughput (kbps) Average	Max	Flows
FTP	790588	1144.039	8519.97	11020.91	3
Box	1984556	1131.919	239.29	25927.18	153
Amazon Cloud	3283018	1128.146	222.80	12758.54	1323
	780193	946.029	145.87	1348.58	477
DropBox	1060626	790.944	908.75	14223.64	200
POP-SSL	840120	762.747	372.60	4746.37	84
Facebook	1053420	729.356	15.91	22574.68	5205
IMAP-SSL	749311	715.346	39.20	1931.31	1128
HTTP-ALT	561200	588.484	3443.47	46311.05	24
Steam	468461	526.298	2005.32	22318.99	36
Twitter	306235	335.480	34.89	10656.67	997
iCloud	874288	242.706	4.27	2281.30	4237
Discovered Ports	57596360	44961.928	4626.66	30684.13	-

Top 30 Outbound Applications					
Name	Packets	Data (MB)	Throughput (kbps)		Flows
			Average	Max	
HTTPS	81796441	26318.867	44.74	10765.55	27905
IPSEC	19676288	9997.781	40.28	7892.42	359
Amazon Cloud	4607144	5955.567	1194.03	14681.26	1323
iTunes	64515008	4525.955	48.80	1355.31	13613
	11531642	3584.870	9.75	8749.15	2311
HTTP	18204941	2970.274	12.02	14272.89	38978
Box	1909994	2102.827	448.25	7014.78	152
DropBox	1381122	1489.720	1525.47	21494.74	200
Google Encrypted	2298435	1478.769	35.87	12982.50	6076
isakmp	3750768	1426.610	27.47	7417.08	97
GMail	2471185	1220.918	53.64	4933.20	1197
BitTorrent	8386570	958.630	16.94	2209.11	348
Facebook	961547	256.346	5.64	799.96	5202
HTTP-ALT	390812	254.975	1481.39	27675.73	24
Quicktime	3668726	247.139	62.20	537.55	380
Facetime	386590	241.058	554.70	764.45	10
MPEG	2648289	184.668	44.82	524.76	171
Flash	2768800	184.526	34.34	182.63	492
iCloud	958355	154.941	2.90	2161.86	4236
RTP	252054	149.327	364.07	751.57	9
Citrix	1493949	137.418	22.18	1000.35	7
SMTP	72322	99.503	346.86	2584.39	34
Skype	258685	96.156	7.19	1331.79	476
Windows Updates	1559431	92.238	37.88	776.25	407
IMAP-SSL	559499	91.482	5.19	2745.74	1128
Netflix	1237670	87.003	15.16	113.69	168
	645641	78.172	12.05	101.95	477
YouTube	991357	74.073	18.96	272.11	607
SSL	172750	54.729	19.42	2739.14	73
POP-SSL	726435	52.128	28.06	455.77	84
Discovered Ports	9906046	1731.394	59.52	3477.96	-

Top 10 Inbound URLs

- fetch.noxsolutions.com (27.50%)
- edge.adobe-dcfs.com (21.47%)
- directvnfl.vo.llnwd.net (14.66%)
- liveupdate.symantecliveupdate.com (9.60%)
- speedtest.cloudbroadband.net (5.47%)
- cloud-neofussvr.sslcs.cdngc.net (4.84%)
- officecdn.microsoft.com (4.53%)
- us-std-00001.s3-external-1.amazonaws.com:80 (4.31%)
- downloads.dell.com (4.06%)
- stg-ore-u.uplynk.com (3.56%)

Top 10 URLs Represent 41.08% of 38608.39 MB

Top 10 Outbound URLs

- speedtest.cloudbroadband.net (49.65%)
- fl.suncoast.broadband.com (8.16%)
- speedtest.net.rapidsys.com (7.17%)
- directvnfl.vo.llnwd.net (6.42%)
- edge.adobe-dcfs.com (6.34%)
- fetch.noxsolutions.com (5.32%)
- 72.29.70.131 (4.69%)
- www.dslreports.com (4.37%)
- speedtest.t3com.net (4.31%)
- attdashboard.wireless.att.com (3.57%)
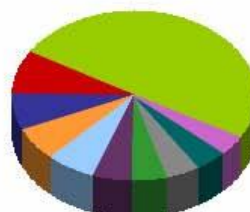
Top 10 URLs Represent 37.07% of 2926.50 MB

Top 30 Inbound URLs					
Name	Packets	Data (MB)	Throughput (kbps)		Flows
			Average	Max	
fetch.noxsolutions.com	3178183	4361.783	23507.71	21603.61	1
edge.adobe-dcfs.com	2473645	3405.483	8772.87	20832.19	21
directvnfl.vo.llnwd.net	1728562	2325.581	1491.87	1459.72	3
liveupdate.symanteccliveupdate.com	1208294	1522.020	2271.11	33757.21	227
speedtest.cloudbroadband.net	802492	867.066	3860.33	10779.91	21
cloud-neofussvr.sslcs.cdngc.net	554659	767.707	62890.59	0.00	1
officecdn.microsoft.com	528193	718.471	8530.02	2820.70	2
...ternal-1.amazonaws.com:80	516247	683.664	1723.25	13177.70	206
downloads.dell.com	474742	644.706	10156.60	11960.93	2
stg-ore-u.uplynk.com	417658	564.743	1058.67	6394.54	14
r20---sn-hp576nee.c.pack.google.com	336719	451.603	3736.90	27178.38	20
a1908.phobos.apple.com	326062	451.556	36991.44	46575.14	3
us...ternal-1.amazonaws.com:80	268875	361.359	2330.91	12035.64	30
us-ore-00001.s3.amazonaws.com:80	269482	358.057	2095.14	13672.63	44
mitp.wsj.com	267443	341.155	2235.79	6637.69	13
bi.medscape.com	241182	333.344	1142.57	5747.62	8
admarvel.s3.amazonaws.com	216793	290.558	2735.92	8514.31	31
vsphereclient.vmware.com	180946	252.626	4498.94	1796.24	2
	177035	243.587	1830.70	0.05	1
r7---sn-5uaeznl7.c.android.clients.google.com	165898	228.776	6693.33	13671.36	7
	151698	209.661	1770.67	1727.61	1

Name	Packets	Data (MB)	Throughput (kbps) Average	Max	Flows
	152368	208.570	1837.21	1800.50	1
nbcdotcom-f.akamaihd.net	154332	204.580	1782.89	2005.71	3
	143649	196.898	663.78	0.66	1
25.media.tumblr.com	139461	192.712	1517.98	8240.88	48
download.oracle.com	137106	188.067	38516.15	38516.15	1
r1---sn-hp576n76.c.pack.google.com	142929	180.842	7054.57	14581.70	13
assets.nydailynews.com	132222	179.354	2069.40	5482.24	13
images.apple.com	133553	172.569	900.43	4936.40	65
brs-l3-espnu-hls.espn.go.com	118242	170.425	1004.40	924.96	4

Top 30 Outbound URLs					
Name	Packets	Data (MB)	Throughput (kbps)		Flows
			Average	Max	
speedtest.cloudbroadband.net	572902	538.539	2371.89	9831.19	21
fl.suncoastbroadband.com	95522	88.529	4834.86	5097.51	4
speedtestnet.rapidsys.com	70501	77.773	7079.06	6266.73	2
directvnfl.vo.llnwd.net	986728	69.665	44.69	47.75	3
edge.adobe-dcfs.com	990772	68.763	177.70	332.30	21
fetch.noxsolutions.com	821989	57.728	311.12	256.72	1
	52923	50.862	8333.16	8106.88	2
www.dslreports.com	52678	47.439	3532.95	3532.95	1
speedtest.t3com.net	40225	46.730	7656.24	7656.24	1
attdashboard.wireless.att.com	37822	38.725	2265.97	6820.39	4
liveupdate.symanteclveupdate.com	668033	38.637	60.06	671.26	227
speedtestnet.flhsi.com	32774	28.484	4666.78	4666.78	1
wac.a3cd.edgecastcdn.net	19161	27.222	3185.78	5160.10	4
	92509	27.040	58.76	244.08	131
	22149	25.401	6936.27	6936.27	1
speedtest.cloudbroadband.net:80	34403	23.962	817.92	896.52	4
www.southwest.com	86602	22.799	40.43	142.84	64
officecdn.microsoft.com	315959	22.038	261.64	80.12	2
mitp.wsj.com	246181	19.723	130.30	271.65	13
www.google.com	141542	18.737	11.61	238.26	524
espn.go.com	33553	16.631	2.14	23.13	59
downloads.dell.com	270270	15.592	245.63	315.42	2
cloud-neofussvr.sslcs.cdngc.net	226938	15.189	1244.28	0.00	1
xternal-1.amazonaws.com:80	217966	15.112	38.93	335.63	206
configuration.apple.com	146044	14.813	2.62	10.80	703
ad4.liverail.com	13520	11.596	31.77	39.38	13
speedtestx.rootmetrics.com	11105	11.576	4741.67	4741.67	1
pix04.revsci.net	12841	11.463	22.96	48.26	37
images.bloomingdales.com	42040	11.411	137.47	245.41	10
r20---sn-hp576nee.c.pack.google.com	186757	11.169	92.42	540.24	20

Top 10 Inbound Conversations

Top 10 Outbound Conversations

	Top 10 Inbound
🟩	69.80 ...121 [udp ports 49476 & 443] (51.12%)
🟥	72.16 ...6.127.41 [iTunes] (6.54%)
🟦	72.16 ...124.56 [iTunes] (6.07%)
🟧	72.16 ...5.130.191 [iTunes] (5.29%)
⬜	72.21 ...25.158 [HTTP] (5.27%)
🟪	72.16 ...6.121.157 [iTunes] (5.26%)
🟩	72.16 ...125.109 [iTunes] (5.26%)
⬜	72.16 ...124.56 [iTunes] (5.15%)
🟩	72.16 ...5.125.109 [iTunes] (5.03%)
🟪	72.164.252.106 to 172.16.127.38 [iTunes] (5.01%)

	Top 10 Outbound
🟩	172.16 ...6.17 [HTTPS] (34.99%)
🟥	172.16 ...56.144 [IPSEC] (21.04%)
🟦	172.16 ...5.17 [HTTPS] (20.92%)
🟧	172.16 ...56.3 [udp ports 49476 & 443] (5.52%)
⬜	172.16 ...184.71 [Box] (4.24%)
🟪	172.16 ...98.203 [4thDown GSK Servers] (4.11%)
🟩	172.16 ...83.11 [HTTPS] (4.07%)
⬜	172.16 ...56.144 [IPSEC] (1.79%)
🟩	172.16 ...183.11 [HTTPS] (1.66%)
🟪	172.16 ...184.199 [Box] (1.65%)

Top 10 Conversations Represent 14.18% of 584408.09 MB
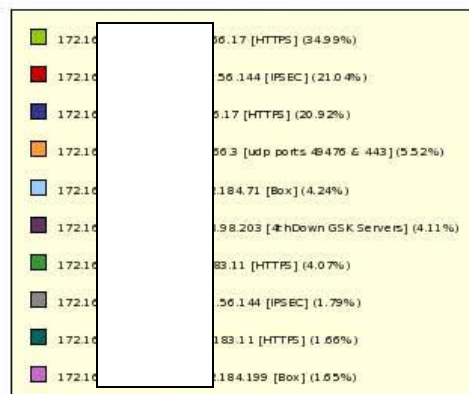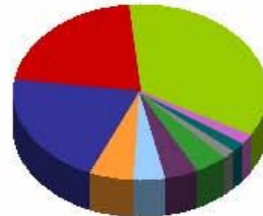
Top 10 Conversations Represent 35.62% of 66876.74 MB

Top 30 Inbound Conversations						
External Host	Internal Host	Application	Data (MB)	Throughput (kbps)		Flows
				Average	Max	
69.80.66.3	172.16.120.121	udp ports 49476 & 443	42354.924	24819.14	30684.13	1
72.164.252.120	172.16.127.41	iTunes	5423.002	10477.65	24020.48	1
72.164.252.99	172.16.124.56	iTunes	5030.656	10100.77	30148.71	1
72.164.252.131	172.16.130.191	iTunes	4382.779	12..		1
72.21.81.253	172.16.125.158	HTTP	4363.545	22481.86	24642.07	1
72.164.252.106	172.16.121.157	iTunes	4356.086	35331.74	36672.14	1
72.164.252.91	172.16.125.109	iTunes	4355.167	36037.91	41691.52	1
72.164.252.104	172.16.124.56	iTunes	4269.406	9252.64	13679.96	1
72.164.252.104	172.16.125.109	iTunes	4171.084	22628.82	32326.96	1
72.164.252.106	172.16.127.38	iTunes	4153.400	28119.55	31344.05	1
72.164.252.88	172.16.125.63	iTunes	4119.579	14120.33	24318.91	1
23.33.186.17	172.16.124.198	iTunes	3967.731	12038.39	23816.55	1
72.164.252.129	172.16.125.120	iTunes	3962.606	17452.51	23936.91	1
23.33.186.51	172.16.127.41	iTunes	3878.965	9747.39	14882.11	1
72.164.252.131	172.16.122.83	iTunes	3639.707	24241.04	26782.72	1
72.164.252.99	172.16.125.7	iTunes	3554.355	21409.76	28597.38	1
72.164.252.104	172.16.126.98	iTunes	3545.674	10336.71	14235.86	1
72.164.252.106	172.16.124.120	iTunes	3508.261	12334.62	18559.31	1
208.111.162.27	172.16.121.30	Netflix	3350.780	4268.99	6238.20	1
72.164.252.130	172.16.128.159	iTunes	3201.072	11654.75	19432.94	1
108.175.40.98	172.16.124.68	MPEG	2847.166	4469.65	6680.78	1

Most of the large downloads were from IOS updates.

72.164.252.96	172.16.127.41	iTunes	2525.532	9114.17	24356.72	1
63.234.248.228	172.16.120.227	Flash	2405.068	2238.90	2309.56	1
72.164.252.123	172.16.126.201	iTunes	2293.891	8170.24	10449.34	1
69.28.187.62	172.16.126.55	Netflix	2200.493	3179.27	3882.65	1
68.142.101.7	172.16.120.227	HTTP	2157.295	1455.73	1684.20	1
72.164.252.128	172.16.125.60	iTunes	2086.408	14992.85	17591.11	1
72.164.252.88	172.16.126.201	iTunes	2071.970	15572.09	17724.88	1
23.33.186.58	172.16.128.114	iTunes	2014.717	8969.87	15734.62	1
72.164.252.88	172.16.125.60	iTunes	1982.834	8203.72	9997.18	1

Top 30 Outbound Conversations						
Internal Host	External Host	Application	Data (MB)	Throughput (kbps)		Flows
				Average	Max	
172.16.1	0.66.17	HTTPS	8333.806	961.69	10765.55	3
172.16.1	51.56.144	IPSEC	5011.206	4659.68	7892.42	1
172.16.1	0.66.17	HTTPS	4983.514	1574.43	9580.35	2
172.16.1	0.66.3	udp ports 49476 & 443	1314.968	770.54	922.84	1
172.16.1	12.184.71	Box	1008.726	6076.09	6867.33	1
172.16.1	58.98.203		978.589	82.12	8749.15	4
172.16.1	7.183.11	HTTPS	969.804	1291.81	4421.09	4
172.16.1	51.56.144	IPSEC	427.535	87.06	7647.54	2
172.16.1	7.183.11	HTTPS	396.166	1175.87	4963.63	1
172.16.1	12.184.199	Box	394.091	6208.45	7014.78	1
172.16.1	58.98.203		388.394	90.34	2757.96	2
172.16.1	51.48.144	isakmp	382.889	143.09	7417.08	1
172.16.1	251.243.115	Amazon Cloud	376.545	14021.16	14681.26	1
172.16.1	25.21.95	Google Encrypted	349.135	8412.09	11177.75	1
172.16.1	243.51.9	HTTPS	293.199	2183.54	3532.00	1
172.16.2	58.117.206		292.480	8.08	223.49	5
172.16.1	09.204.54	HTTPS	289.230	404.33	4433.02	2
172.16.1	51.56.144	isakmp	279.015	584.58	2389.30	1
172.16.1	51.56.144	IPSEC	273.486	123.78	1318.83	2
172.16.1	25.21.95	Google Encrypted	259.801	9674.05	12982.50	1
172.16.1	1.227.222	DropBox	255.119	9952.09	21494.74	1
172.16.1	101.8.107	HTTP-ALT	248.943	20393.39	27675.73	1
172.16.1	25.134.95	Google Encrypted	247.026	6978.07	9635.89	1
172.16.1	7.183.11	HTTPS	230.281	789.32	3554.98	2
172.16.1	58.98.203		211.897	29.12	602.01	5
172.16.1	7.183.11	HTTPS	205.069	823.49	5468.54	3
172.16.2	58.117.206		197.450	7.95	215.57	4
172.16.1	51.56.144	IPSEC	183.006	205.37	963.39	1
172.16.1	51.56.144	IPSEC	178.398	48.68	878.58	3
172.16.1	12.184.96	Box	171.345	665.24	854.96	4

Interface Inbound Throughput (ALL)

We consistently realized over 90Mbps throughput each day.

Interface Outbound Throughput (ALL)
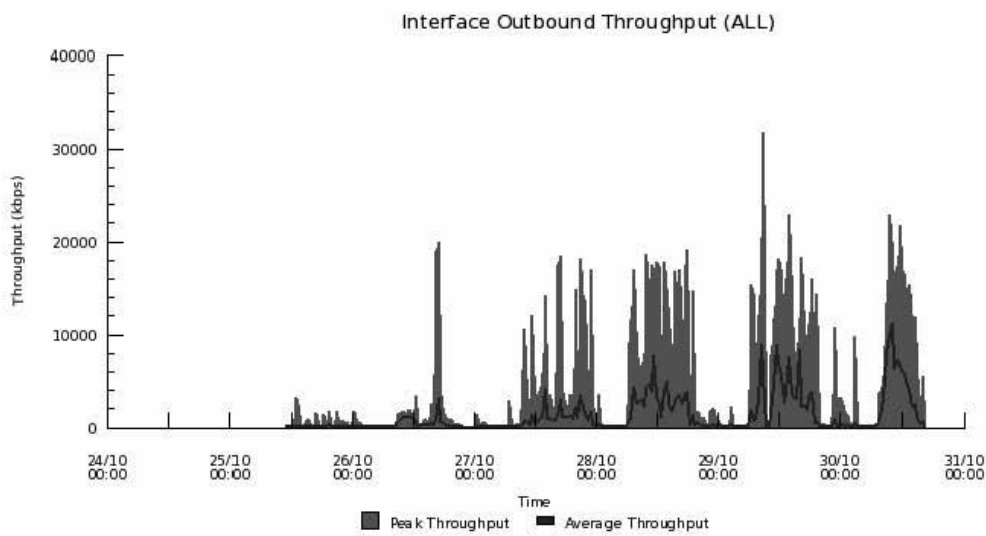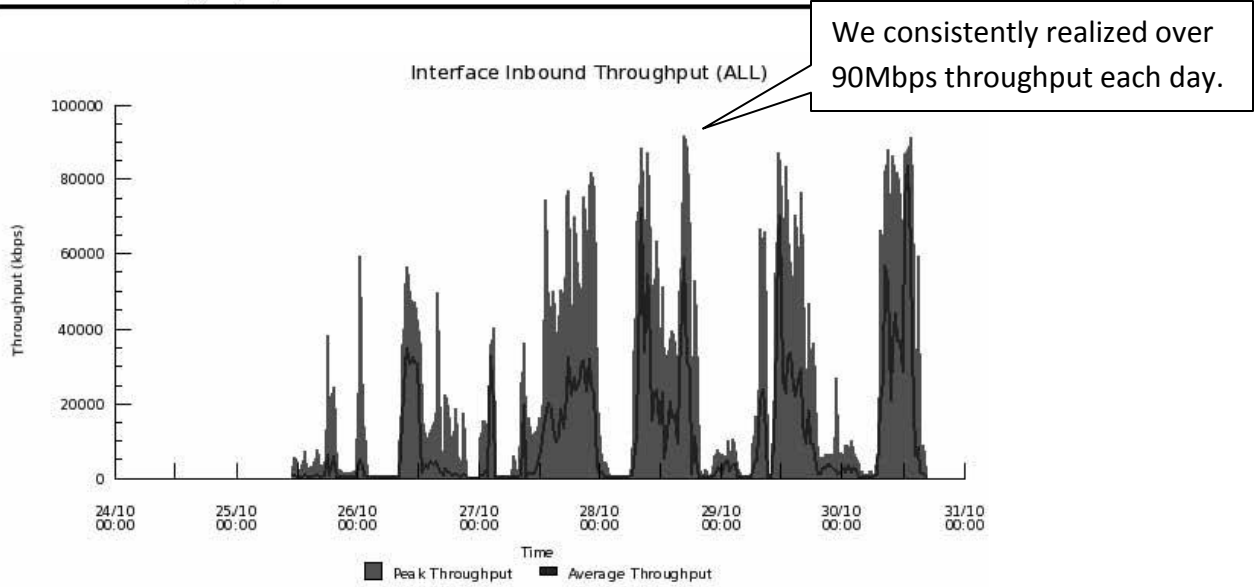
WAN Interface Throughput Summary (ALL)			
Data Direction	Total Data (MB)	Throughput Avg (Mbps)	Throughput Max (Mbps)
Inbound	596466.032	10.77	91.64
Outbound	69861.816	1.26	31.75
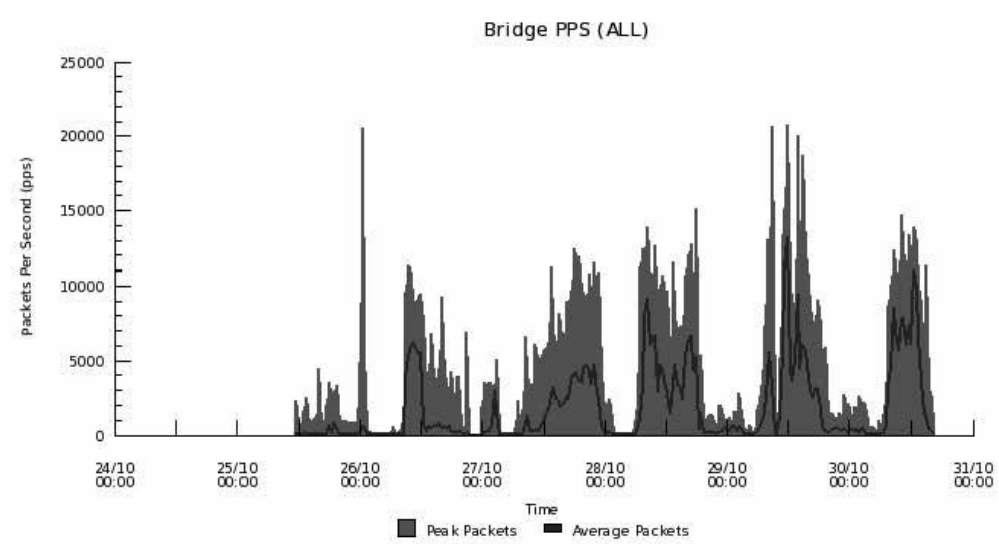
Bridge PPS (ALL)

Bridge PPS Summary (ALL)		
Data Direction	Packets Per Second (Avg)	Packets Per Second (Max)
Outbound	1,797	20,784

Throughput for Top 10 Inbound Applications LAN

Legend: iTunes, HTTPS, Apple Updates, udp ports 49476 & 443, HTTP, Quicktime, MPEG, HTTP-ALT, BitTorrent, Windows Updates, Other
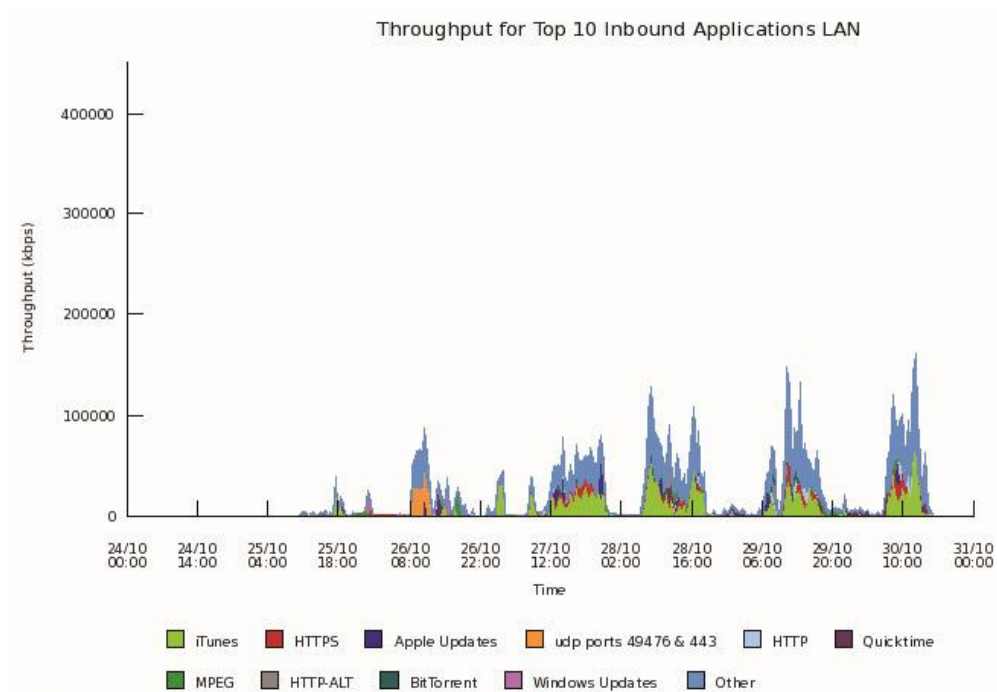
Name	Total Data (MB)	Throughput Max (Mbps)	Throughput Avg (Mbps)
iTunes	278087.738	72.502	3.678
HTTPS	20984.243	24.021	0.278
Apple Updates	2091.688	40.013	0.028
udp ports 49476 & 443	41309.785	29.057	0.546
HTTP	10989.121	21.957	0.145
Quicktime	6750.699	18.469	0.089
MPEG	3331.598	24.088	0.044
HTTP-ALT	448.851	45.226	0.006
BitTorrent	4472.565	8.988	0.059
Windows Updates	1022.611	29.897	0.014
Other	627207.880	96.496	8.296

iTunes represents the Apple IOS updates.

Throughput for Top 10 Inbound Applications WAN
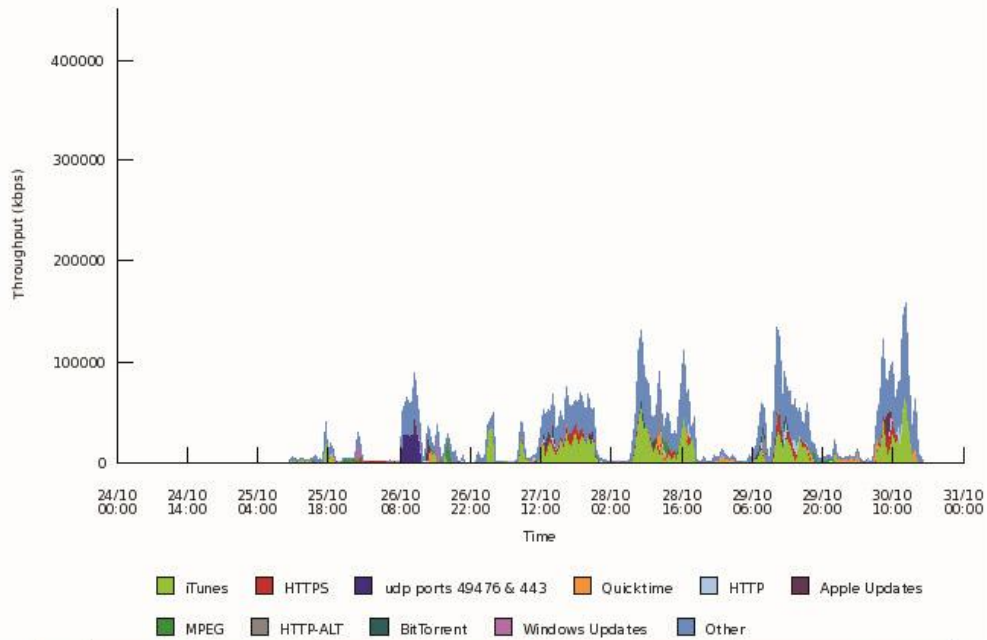
Name	Total Data (MB)	Throughput Max (Mbps)	Throughput Avg (Mbps)
iTunes	271844.856	72.298	3.596
HTTPS	20984.243	24.021	0.278
udp ports 49476 & 443	41309.785	29.057	0.546
Quicktime	7026.429	20.333	0.093
HTTP	9430.647	22.959	0.125
Apple Updates	925.032	29.790	0.012
MPEG	3188.385	24.088	0.042
HTTP-ALT	448.851	45.226	0.006
BitTorrent	4472.565	8.988	0.059
Windows Updates	1037.772	29.897	0.014
Other	598583.128	82.178	7.918

Throughput for Top 10 Outbound Applications LAN

Legend: HTTPS, Amazon Cloud, DropBox, iTunes, IPSEC, HTTP-ALT, Box, HTTP, 4thDown GSK Servers, udp ports 49476 & 443, Other
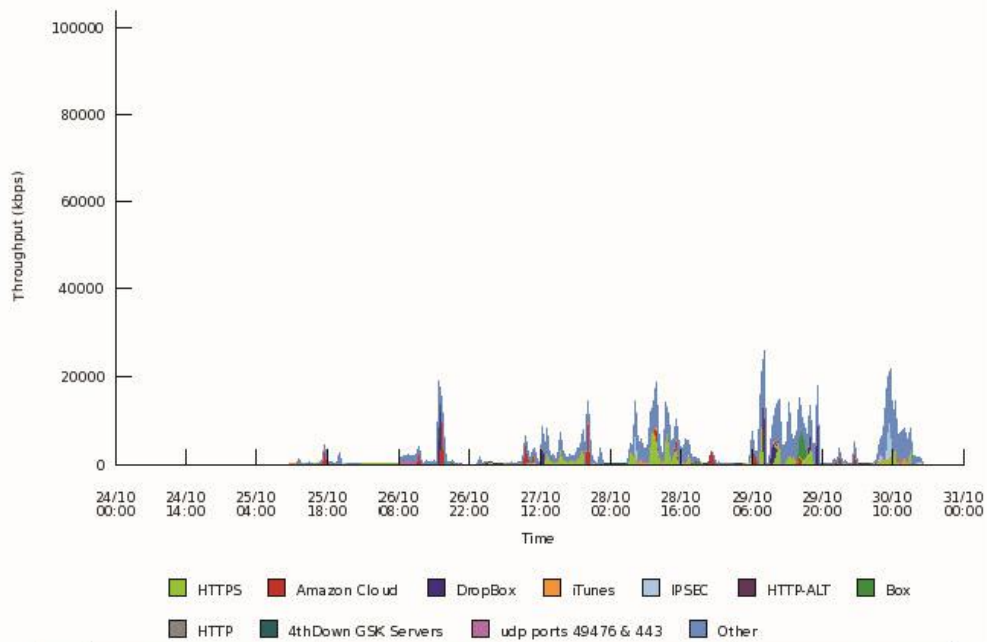
Name	Total Data (MB)	Throughput Max (Mbps)	Throughput Avg (Mbps)
HTTPS	8047.028	10.142	0.106
Amazon Cloud	1396.793	12.137	0.018
DropBox	541.405	16.796	0.007
iTunes	4208.747	1.661	0.056
IPSEC	1387.165	8.200	0.018
HTTP-ALT	250.975	19.915	0.003
Box	559.245	6.025	0.007
HTTP	603.720	1.962	0.008
4t____ers	469.578	5.144	0.006
udp ports 43476 & 443	1262.228	0.871	0.017
Other	74276.756	11.735	0.982

Throughput for Top 10 Outbound Applications WAN
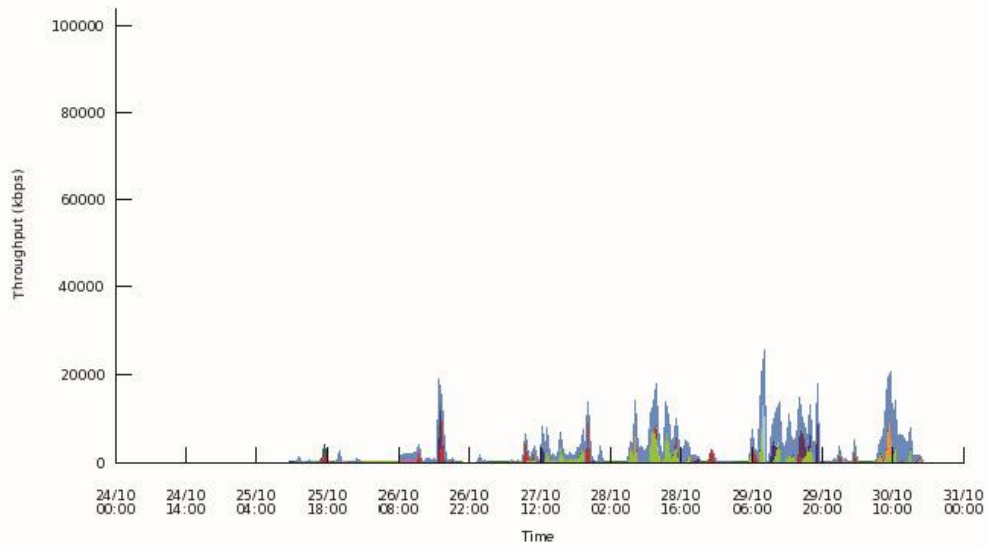
Legend: HTTPS, Amazon Cloud, DropBox, IPSEC, HTTP-ALT, Box, 4thDown GSK Servers, HTTP, iTunes, udp ports 49476 & 443, Other

Name	Total Data (MB)	Throughput Max (Mbps)	Throughput Avg (Mbps)
HTTPS	8047.038	10.142	0.106
Amazon Cloud	1396.732	12.137	0.018
DropBox	541.405	16.796	0.007
IPSEC	1387.165	8.200	0.018
HTTP-ALT	250.975	19.915	0.003
Box	559.239	6.025	0.007
4 ers	469.578	5.144	0.006
HTTP	446.776	1.931	0.006
iTunes	936.056	0.342	0.012
udp ports 49476 & 443	1262.228	0.871	0.017
Other	68904.502	10.876	0.911

Edge Cache Throughput

Edge Cache Statistics
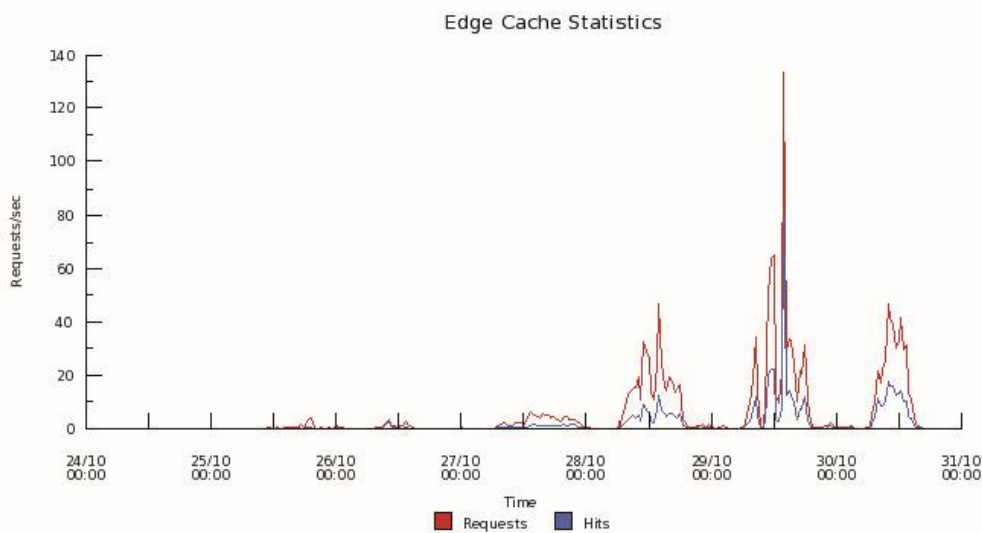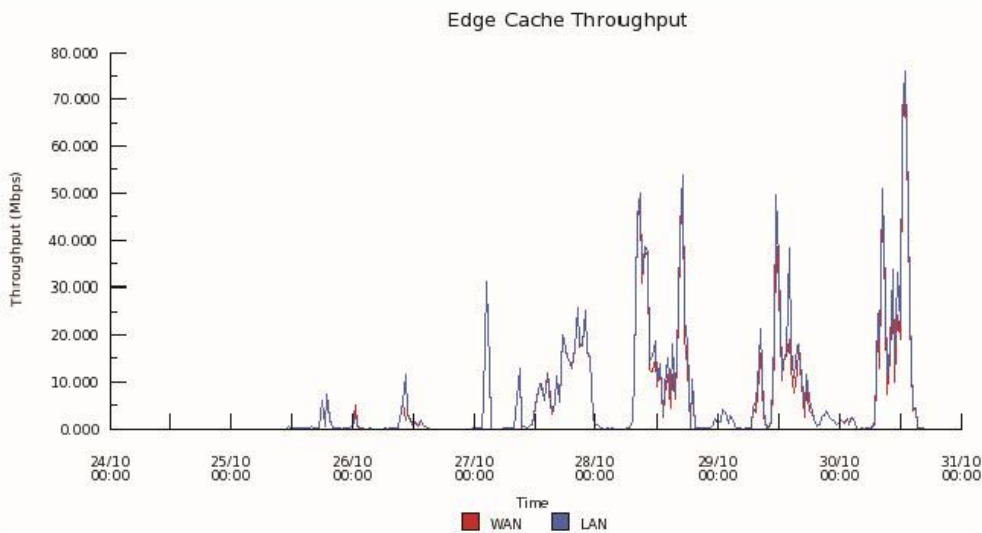
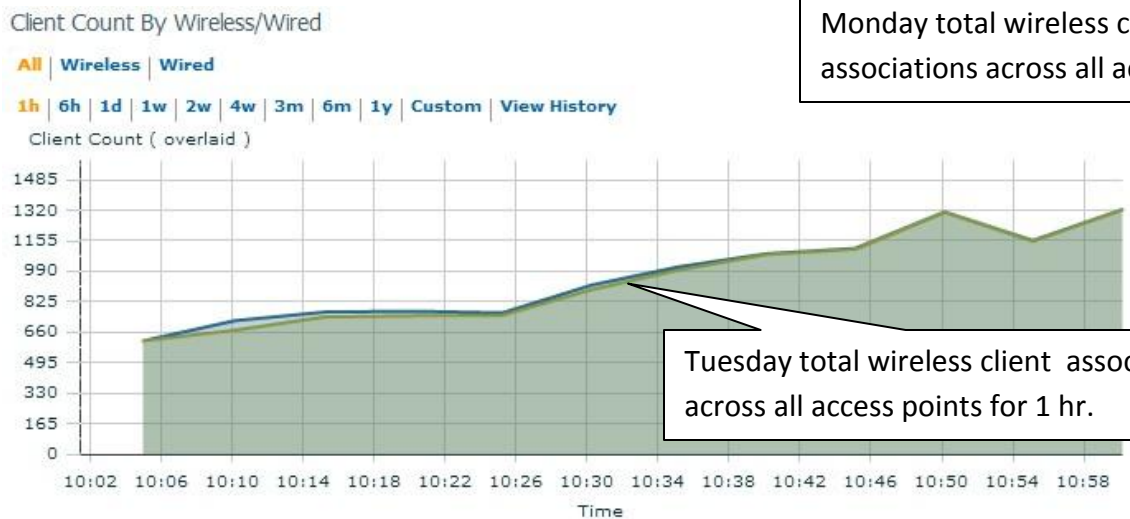| LAN (GB)	WAN (GB)	Reduction Ratio (%)	Requests	Hits	Hit Ratio (%)
390.26	350.58	10.17	2994840	1046340	34.94

Edge Caching was used for almost 35% of all traffic resulting in a 10% reduction in bandwidth.

Client Associations

Three day total wireless client associations across all access points. maximum of 1875 users.

Client Count By Wireless/Wired

All | Wireless | Wired

1h | 6h | 1d | 1w | 2w | 4w | 3m | 6m | 1y | Custom | View History

Client Count (overlaid)

Client Count By Wireless/Wired

All | Wireless | Wired

1h | 6h | 1d | 1w | 2w | 4w | 3m | 6m | 1y | Custom | View History

Client Count (overlaid)

Monday total wireless client associations across all access points.

Client Count By Wireless/Wired

All | Wireless | Wired

1h | 6h | 1d | 1w | 2w | 4w | 3m | 6m | 1y | Custom | View History

Client Count (overlaid)

Tuesday total wireless client associations across all access points for 1 hr.

Associated Count   Authenticated Count
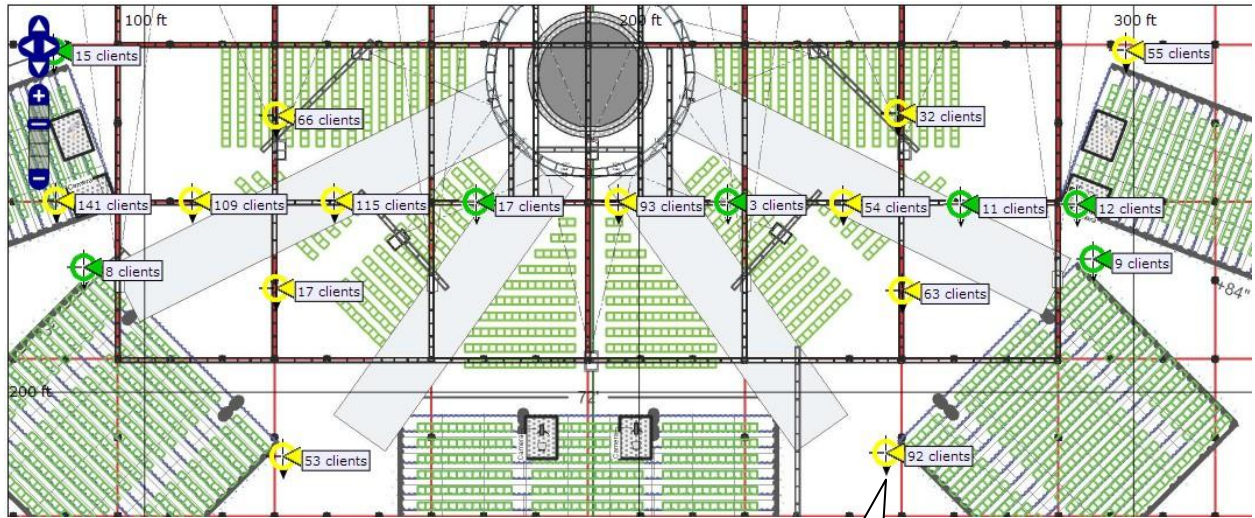
This graphic shows the distribution of client associations to access points during the final Wednesday general session.