TRA Bahrain Broadband Analysis Report

01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 00:00:00 Asia/Bahrain

Report created 03 Apr 2011 15:47

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Noticeable events this Quarter

All monitored Broadband Packages have been upgraded to 2Mb/s to make it easier for end users to compare results between Internet Service Providers. The upgrade was performed during January 2011, as a results Q1 2011 report is measuring the period from 1 February 2011 00:00 to 31 Mars 2011 24:00.

There was a network incident affecting the Batelco Broadband and Wholesales services between the 14 February and 17 February 2011 causing low speed browsing experience for end users.

The Tsunami in Japan on 11 March 2011 did not cause visible disturbances on the Broadband services in Bahrain.

The Falcon cable, supporting one of the Kingdom accesses to the internet was disrupted from the 23 March until the end of March causing disturbances or low browsing experience in some case.

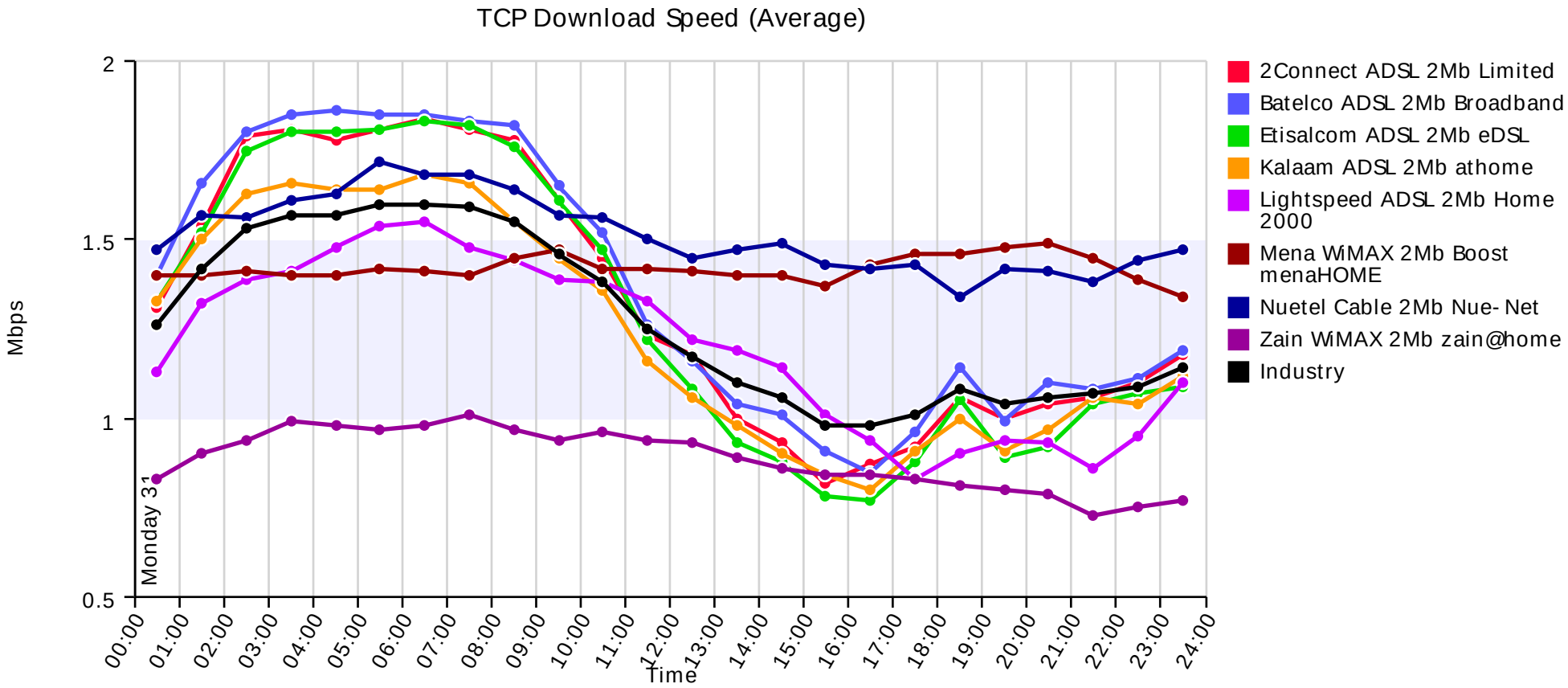
Averages recorded over the reporting period are inclusive of those incidents.

Orbit services have been removed from the report, due to the specific nature of the satellite technology performance could not be compared with fixed internet Service Providers.

TCP Download Speed (Average)

TCP Download Speed (Average) Line Chart (Peer view)

01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 24:00:00 Asia/Bahrain



TCP Download Speed (Average) Line Chart Values (Peer view)

01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 24:00:00 Asia/Bahrain

	00:00, 31 Jan	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
2Connect ADSL 2Mb Limited	1.31	1.54	1.79	1.81	1.78	1.81	1.84	1.81	1.78	1.61	1.45	1.23	1.18	1.00	0.93	0.82	0.87	0.92	1.06	1.00	1.04	1.06	1.10	1.18
Batelco ADSL 2Mb Broadband	1.40	1.66	1.80	1.85	1.86	1.85	1.85	1.83	1.82	1.65	1.52	1.26	1.16	1.04	1.01	0.91	0.85	0.96	1.14	0.99	1.10	1.08	1.11	1.19
Etisalcom ADSL 2Mb eDSL	1.33	1.52	1.75	1.80	1.80	1.81	1.83	1.82	1.76	1.61	1.47	1.22	1.08	0.93	0.88	0.78	0.77	0.88	1.05	0.89	0.92	1.04	1.07	1.09
Kalaam ADSL 2Mb athome	1.33	1.50	1.63	1.66	1.64	1.64	1.68	1.66	1.55	1.45	1.36	1.16	1.06	0.98	0.90	0.84	0.80	0.91	1.00	0.91	0.97	1.06	1.04	1.12
Lightspeed ADSL 2Mb Home 2000	1.13	1.32	1.39	1.41	1.48	1.54	1.55	1.48	1.44	1.39	1.38	1.33	1.22	1.19	1.14	1.01	0.94	0.83	0.90	0.94	0.93	0.86	0.95	1.10
Mena WiMAX 2Mb Boost menaHOME	1.40	1.40	1.41	1.40	1.40	1.42	1.41	1.40	1.45	1.47	1.42	1.42	1.41	1.40	1.40	1.37	1.43	1.46	1.46	1.48	1.49	1.45	1.39	1.34
Nuetel Cable 2Mb Nue-Net	1.47	1.57	1.56	1.61	1.63	1.72	1.68	1.68	1.64	1.57	1.56	1.50	1.45	1.47	1.49	1.43	1.42	1.43	1.34	1.42	1.41	1.38	1.44	1.47
Zain WiMAX 2Mb zain@home	0.83	0.90	0.94	0.99	0.98	0.97	0.98	1.01	0.97	0.94	0.96	0.94	0.93	0.89	0.86	0.84	0.84	0.83	0.81	0.80	0.79	0.73	0.75	0.77

Industry	1.26	1.42	1.53	1.57	1.57	1.60	1.60	1.59	1.55	1.46	1.38	1.25	1.17	1.10	1.06	0.98	0.98	1.01	1.08	1.04	1.06	1.07	1.09	1.14

TCP download measurements

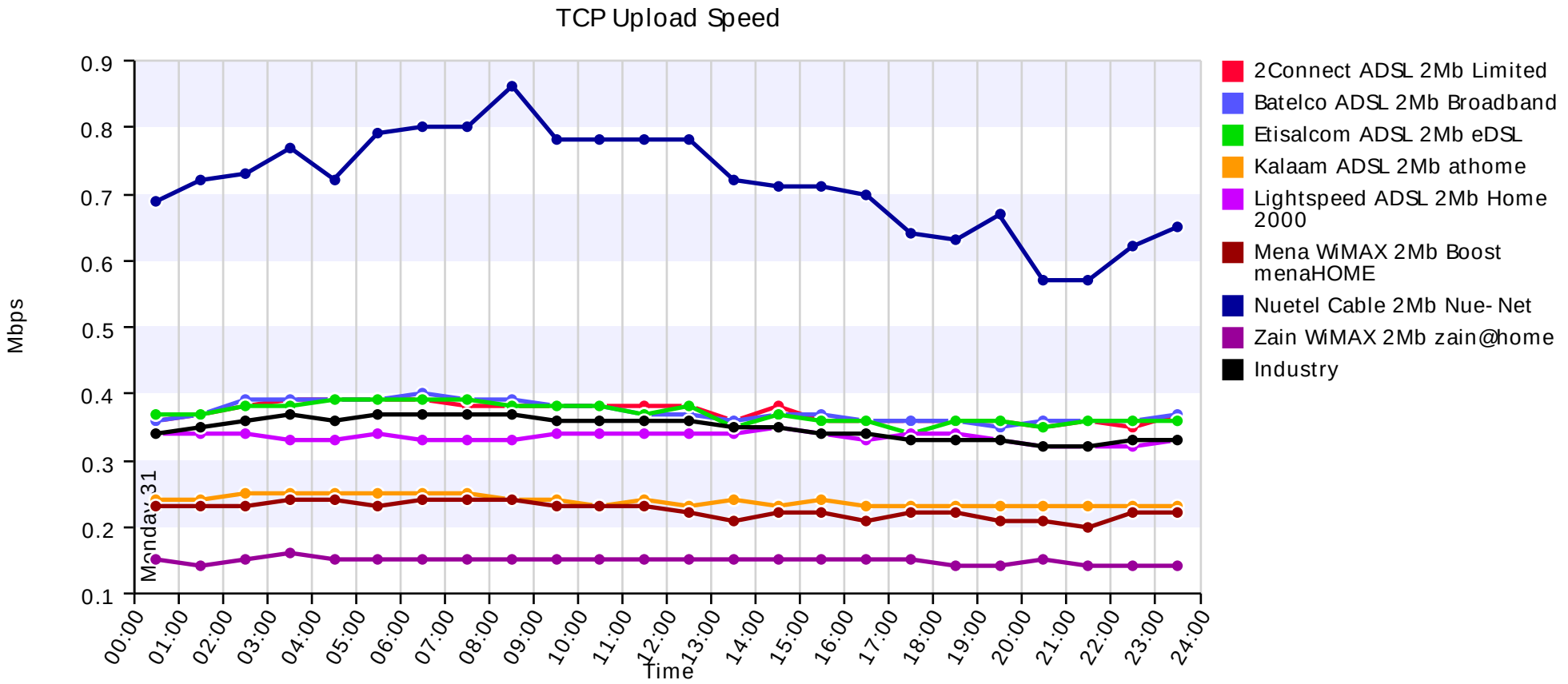
TCP (Transfer Control Protocol) throughput tests measuring download speeds are conducted at a raw socket level (a socket that allows access to the underlying transport provider (ISP) that is supported by protocols such as IPv4 and IPv6) in order to test the full capacity of the connection. The probe is configured to initiate multiple TCP sessions and simultaneously use all of the open sessions for the transmission of data. This effectively "floods" the connection and reports the throughput capacity of the line.

The test is conducted using a server endpoint running proprietary software that is hosted in a well peered data centre. Whilst the port through which the test is typically conducted is configurable, it is normal for port 80 to be used since this minimises the possibility of the traffic being managed or throttled during the test by an ISP. Once the session has been initiated standard data files are transmitted from the endpoint server to the probe and measurements taken of the download throughput of the connection. The test probe measures the time taken to transfer data and the volume of data transferred in a specific time. From these measurements the TCP download speeds can be derived.

TCP Upload Speed (Average)

TCP Upload Speed (Average) Line Chart (Peer view)

01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 24:00:00 Asia/Bahrain



TCP Upload Speed (Average) Line Chart Values (Peer view)

01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 24:00:00 Asia/Bahrain

	00:00, 31 Jan	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
2Connect ADSL 2Mb Limited	0.36	0.37	0.38	0.39	0.39	0.39	0.39	0.38	0.38	0.38	0.38	0.38	0.38	0.36	0.38	0.36	0.36	0.36	0.36	0.36	0.35	0.36	0.35	0.37
Batelco ADSL 2Mb Broadband	0.36	0.37	0.39	0.39	0.39	0.39	0.40	0.39	0.39	0.38	0.38	0.37	0.37	0.36	0.37	0.37	0.36	0.36	0.36	0.35	0.36	0.36	0.36	0.37
Etisalcom ADSL 2Mb eDSL	0.37	0.37	0.38	0.38	0.39	0.39	0.39	0.39	0.38	0.38	0.38	0.37	0.38	0.35	0.37	0.36	0.36	0.34	0.36	0.36	0.35	0.36	0.36	0.36
Kalaam ADSL 2Mb athome	0.24	0.24	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.24	0.23	0.24	0.23	0.24	0.23	0.24	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Lightspeed ADSL 2Mb Home 2000	0.34	0.34	0.34	0.33	0.33	0.34	0.33	0.33	0.33	0.34	0.34	0.34	0.34	0.34	0.35	0.34	0.33	0.34	0.34	0.33	0.32	0.32	0.32	0.33
Mena WiMAX 2Mb Boost menaHOME	0.23	0.23	0.23	0.24	0.24	0.23	0.24	0.24	0.24	0.23	0.23	0.23	0.22	0.21	0.22	0.22	0.21	0.22	0.22	0.21	0.21	0.20	0.22	0.22
Nuetel Cable 2Mb Nue-Net	0.69	0.72	0.73	0.77	0.72	0.79	0.80	0.80	0.86	0.78	0.78	0.78	0.78	0.72	0.71	0.71	0.70	0.64	0.63	0.67	0.57	0.57	0.62	0.65
Zain WiMAX 2Mb zain@home	0.15	0.14	0.15	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.14	0.14	0.15	0.14	0.14	0.14

Industry	0.34	0.35	0.36	0.37	0.36	0.37	0.37	0.37	0.37	0.36	0.36	0.36	0.36	0.35	0.35	0.34	0.34	0.33	0.33	0.33	0.32	0.32	0.33	0.33

TCP upload measurements

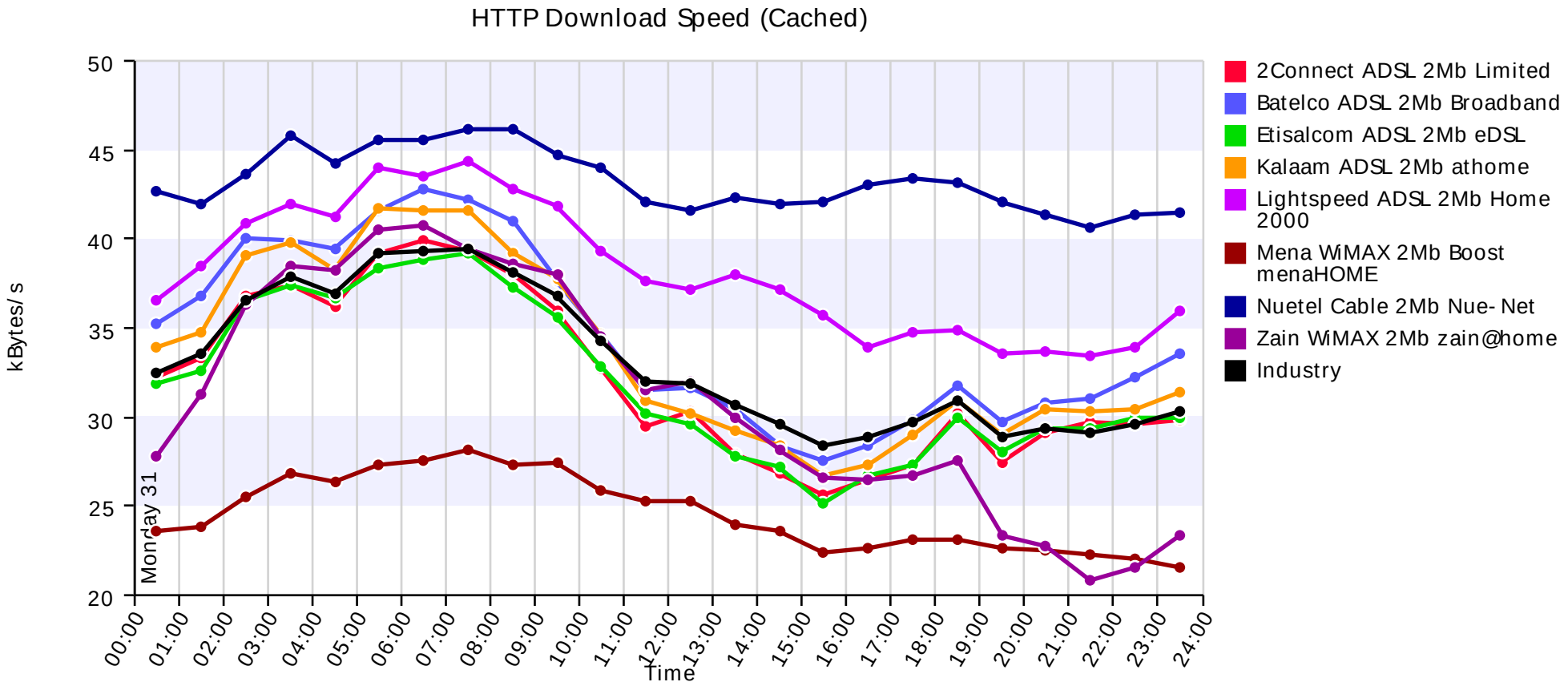
TCP (Transfer Control Protocol) throughput tests measuring upload speeds are conducted at a raw socket level (a socket that allows access to the underlying transport provider (ISP) that is supported by protocols such as IPv4 and IPv6) in order to test the full capacity of the connection. The probe is configured to initiate multiple TCP sessions and simultaneously use all of the open sessions for the transmission of data. This effectively "floods" the connection and reports the throughput capacity of the line.

The test is conducted using a server endpoint running proprietary software that is hosted in a well peered data centre. Whilst the port through which the test is typically conducted is configurable, it is normal for port 80 to be used since this minimizes the possibility of the traffic being managed or throttled during the test by an ISP. Once the session has been initiated standard data files are transmitted from the probe to the endpoint server and measurements taken of the upload throughput of the connection. The test probe measures the time taken to transfer data and the volume of data transferred in a specific time. From these measurements the TCP upload speeds can be derived.

HTTP Download Speed (Cached)

HTTP Download Speed (Cached) Line Chart (Peer view)

01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 24:00:00 Asia/Bahrain



HTTP Download Speed (Cached) Line Chart Values (Peer view)

01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 24:00:00 Asia/Bahrain

	00:00, 31 Jan	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
2Connect ADSL 2Mb Limited	32.28	33.27	36.81	37.42	36.19	39.17	39.91	39.28	37.99	35.98	32.77	29.51	30.34	27.96	26.85	25.70	26.49	27.34	30.23	27.48	29.11	29.66	29.64	29.86
Batelco ADSL 2Mb Broadband	35.28	36.78	40.05	39.97	39.43	41.62	42.83	42.21	40.94	37.62	34.67	31.53	31.63	30.43	28.36	27.59	28.44	29.78	31.76	29.74	30.82	31.08	32.20	33.52
Etisalcom ADSL 2Mb eDSL	31.88	32.63	36.58	37.34	36.66	38.33	38.83	39.20	37.32	35.54	32.85	30.20	29.59	27.79	27.20	25.11	26.77	27.36	29.95	27.99	29.30	29.33	30.01	30.01
Kalaam ADSL 2Mb athome	33.98	34.76	39.05	39.75	38.22	41.71	41.66	41.63	39.22	37.73	34.60	30.93	30.21	29.21	28.39	26.77	27.38	28.96	30.88	28.94	30.38	30.33	30.46	31.41
Lightspeed ADSL 2Mb Home 2000	36.62	38.49	40.93	41.97	41.27	44.02	43.51	44.41	42.75	41.81	39.29	37.61	37.15	38.02	37.12	35.71	33.98	34.77	34.84	33.61	33.71	33.46	33.91	36.01
Mena WiMAX 2Mb Boost menaHOME	23.57	23.86	25.49	26.82	26.32	27.28	27.60	28.10	27.36	27.42	25.85	25.23	25.28	23.91	23.55	22.36	22.61	23.14	23.12	22.61	22.47	22.30	22.02	21.53
Nuetel Cable 2Mb Nue-Net	42.65	41.92	43.69	45.80	44.30	45.52	45.56	46.21	46.13	44.73	44.04	42.12	41.65	42.35	41.93	42.08	43.01	43.38	43.20	42.11	41.36	40.66	41.34	41.53
Zain WiMAX 2Mb zain@home	27.79	31.30	36.37	38.51	38.29	40.48	40.79	39.47	38.61	37.98	34.53	31.55	31.97	29.96	28.10	26.58	26.44	26.68	27.52	23.40	22.71	20.80	21.51	23.34

Industry	32.51	33.51	36.60	37.90	36.96	39.18	39.37	39.48	38.11	36.77	34.30	31.99	31.85	30.71	29.65	28.44	28.91	29.68	30.89	28.92	29.39	29.07	29.57	30.35

HTTP Measurements (Download Speed - Cache)

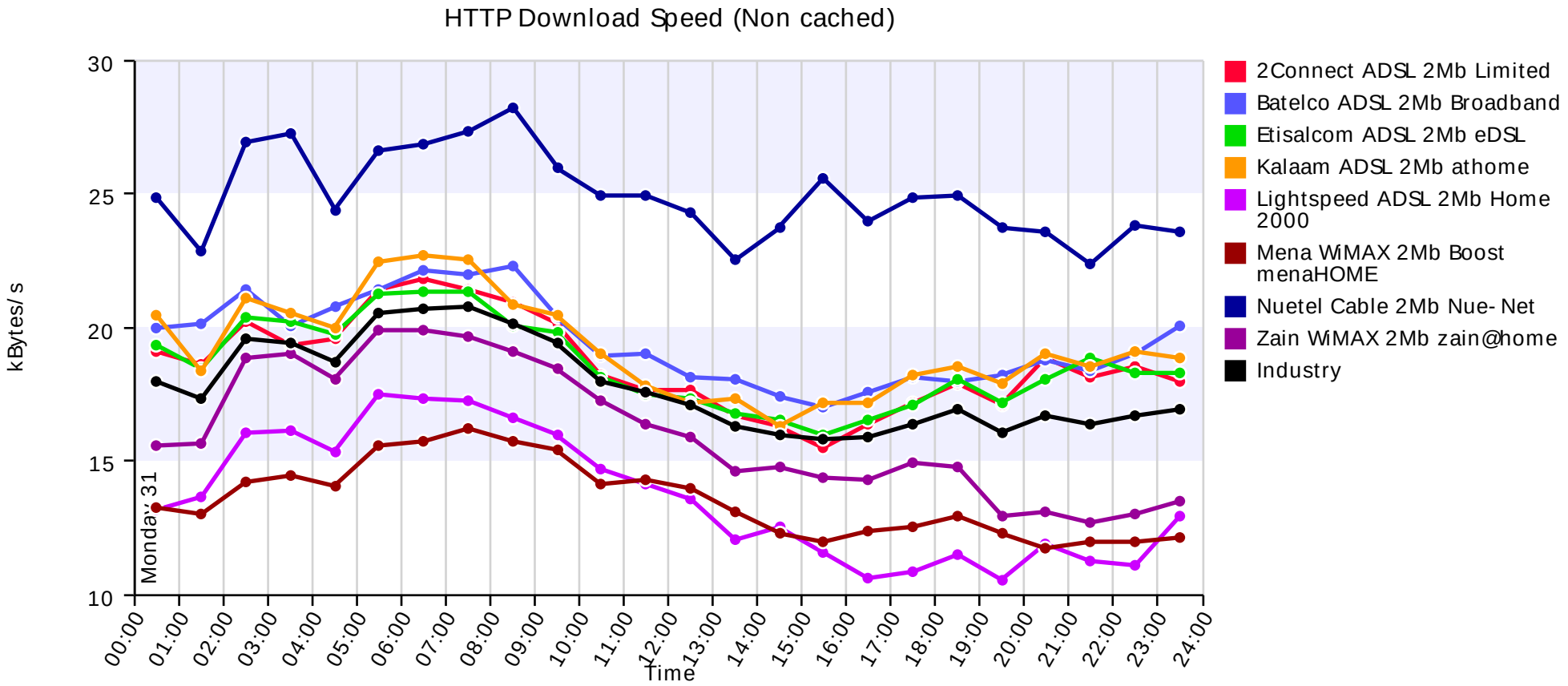
The HTTP (HyperText Transfer Protocol) test makes a request to a specified URL (Uniform Resource Locator) and records the time taken and the amount of data downloaded, from which the speed of the download is derived. Depending on the configuration of the test, test probe is also able to download the embedded content (e.g. images on a web page) in any HTML (HyperText Markup Language) that results from the HTTP request.

Any additional content downloaded is reflected in the captured timings and size of data downloaded. Additionally, the HTTP test can be configured to run in one of two modes of operation: cached and non-cached. When the test downloads from the specified URL in "cached" mode, the speed of the download could be impacted by any caching mechanisms implemented by the network provider.

HTTP Download Speed (Non cached)

HTTP Download Speed (Non cached) Line Chart (Peer view)

01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 24:00:00 Asia/Bahrain



HTTP Download Speed (Non cached) Line Chart Values (Peer view)

01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 24:00:00 Asia/Bahrain

	00:00, 31 Jan	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
2Connect ADSL 2Mb Limited	19.13	18.66	20.22	19.33	19.57	21.42	21.82	21.41	20.92	20.12	18.23	17.71	17.70	16.75	16.32	15.51	16.39	17.17	17.94	17.09	18.89	18.13	18.55	18.03
Batelco ADSL 2Mb Broadband	20.03	20.18	21.44	20.08	20.79	21.45	22.12	21.96	22.29	20.37	18.94	19.02	18.15	18.05	17.43	17.05	17.61	18.17	18.02	18.20	18.76	18.41	19.04	20.10
Etisalcom ADSL 2Mb eDSL	19.36	18.44	20.39	20.26	19.77	21.29	21.37	21.38	20.10	19.82	18.16	17.56	17.35	16.77	16.59	16.04	16.58	17.13	18.08	17.17	18.06	18.86	18.34	18.30
Kalaam ADSL 2Mb athome	20.46	18.43	21.10	20.55	19.97	22.46	22.69	22.52	20.84	20.45	19.07	17.80	17.23	17.32	16.29	17.22	17.21	18.24	18.59	17.91	19.01	18.53	19.10	18.89
Lightspeed ADSL 2Mb Home 2000	13.19	13.67	16.08	16.19	15.36	17.49	17.35	17.30	16.63	16.01	14.72	14.18	13.58	12.09	12.59	11.63	10.62	10.85	11.51	10.60	11.95	11.26	11.13	12.99
Mena WiMAX 2Mb Boost menaHOME	13.26	13.00	14.25	14.50	14.07	15.62	15.73	16.22	15.78	15.42	14.13	14.29	14.04	13.12	12.33	11.99	12.42	12.56	12.96	12.31	11.78	11.99	11.97	12.16
Nuetel Cable 2Mb Nue-Net	24.91	22.85	26.99	27.30	24.40	26.62	26.89	27.34	28.22	26.02	24.94	24.95	24.34	22.54	23.72	25.60	24.02	24.90	24.98	23.75	23.57	22.39	23.87	23.62
Zain WiMAX 2Mb zain@home	15.61	15.68	18.84	19.05	18.11	19.95	19.89	19.69	19.10	18.44	17.30	16.38	15.91	14.66	14.80	14.39	14.32	14.95	14.78	12.92	13.14	12.72	13.01	13.48

Industry	17.96	17.36	19.58	19.45	18.68	20.56	20.68	20.77	20.19	19.43	18.03	17.63	17.13	16.28	15.96	15.83	15.88	16.43	16.92	16.06	16.69	16.39	16.69	16.92

HTTP Measurements (Download Speed - Non Cache)

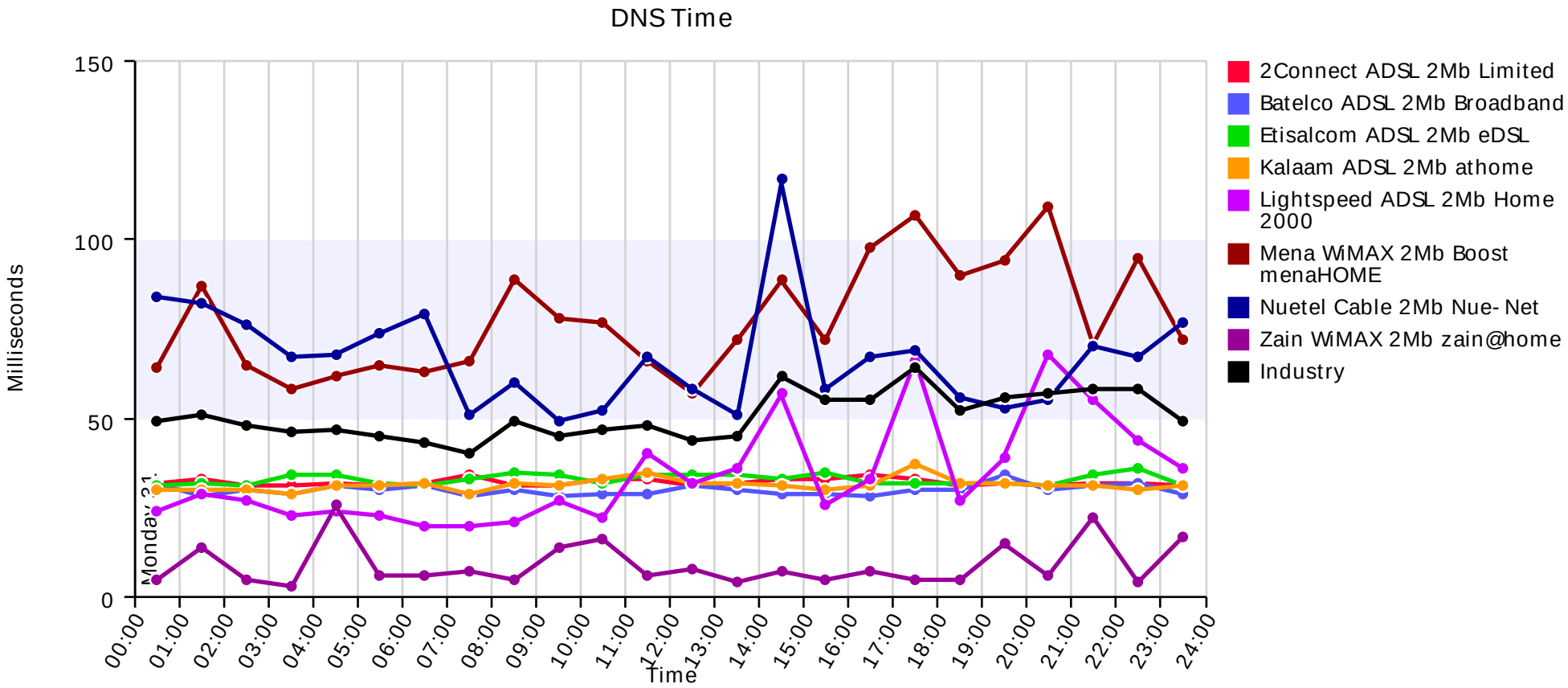
The HTTP (HyperText Transfer Protocol) test makes a request to a specified URL (Uniform Resource Locator) and records the time taken and the amount of data downloaded, from which the speed of the download is derived. Depending on the configuration of the test, test probe is also able to download the embedded content (e.g. images on a web page) in any HTML (HyperText Markup Language) that results from the HTTP request.

Any additional content downloaded is reflected in the captured timings and size of data downloaded. Additionally, the HTTP test can be configured to run in one of two modes of operation: cached and non-cached. When the test downloads from the specified URL in ""non-cached" mode a random query parameter is appended to the end of the URL, which will result in the request bypassing any caches present in the network, and the request will be serviced by the web server specified in the URL as opposed to any cache.

DNS Time

DNS Time Line Chart (Peer view)

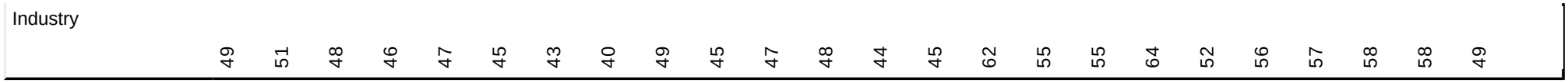
01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 24:00:00 Asia/Bahrain



DNS Time Line Chart Values (Peer view)

01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 24:00:00 Asia/Bahrain

	00:00, 31 Jan	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
2Connect ADSL 2Mb Limited	32	33	31	31	32	31	32	34	31	31	33	33	31	32	33	33	34	33	31	32	31	32	32	31
Batelco ADSL 2Mb Broadband	32	28	30	29	31	30	31	28	30	28	29	29	31	30	29	29	28	30	30	34	30	31	32	29
Etisalcom ADSL 2Mb eDSL	31	32	31	34	34	32	31	33	35	34	32	34	34	34	33	35	32	32	32	32	31	34	36	31
Kalaam ADSL 2Mb athome	30	30	30	29	31	31	32	29	32	31	33	35	32	32	31	30	31	37	32	32	31	31	30	31
Lightspeed ADSL 2Mb Home 2000	24	29	27	23	24	23	20	20	21	27	22	40	32	36	57	26	33	66	27	39	68	55	44	36
Mena WiMAX 2Mb Boost menaHOME	64	87	65	58	62	65	63	66	89	78	77	66	57	72	89	72	98	107	90	94	109	71	95	72
Nuetel Cable 2Mb Nue-Net	84	82	76	67	68	74	79	51	60	49	52	67	58	51	117	58	67	69	56	53	55	70	67	77
Zain WiMAX 2Mb zain@home	5	14	5	3	26	6	6	7	5	14	16	6	8	4	7	5	7	5	5	15	6	22	4	17



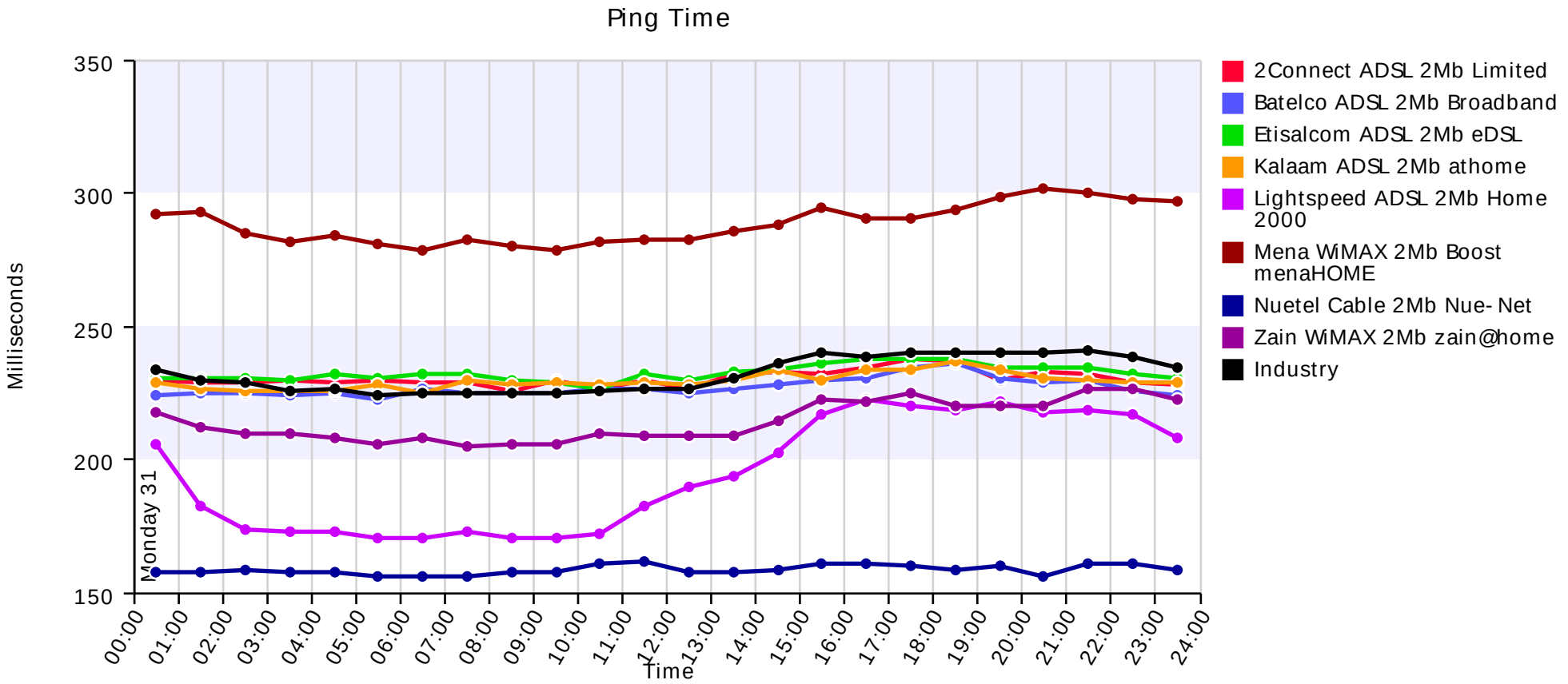
DNS Time (Domain Name System)

The DNS test records the time taken (in milliseconds) to resolve a fully qualified domain name to a corresponding IP address. The DNS servers used for the query are the DNS servers (primary and secondary) dynamically assigned by the service provider when the network connection is initiated. Alternatively a specific DNS server can be configured for use during DNS tests. The test probe disables the Windows DNS Client Service responsible for caching the results of DNS requests so that the DNS query is performed on the DNS servers, and not returned from any local cache.

Ping Time

Ping Time Line Chart (Peer view)

01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 24:00:00 Asia/Bahrain



Ping Time Line Chart Values (Peer view)

01 Feb 2011 - 31 Mar 2011, between 00:00:00 and 24:00:00 Asia/Bahrain

	00:00, 31 Jan	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
2Connect ADSL 2Mb Limited	230	229	229	230	229	230	229	229	226	230	227	230	227	232	233	232	235	238	237	230	233	232	229	228
Batelco ADSL 2Mb Broadband	224	225	225	224	225	223	227	225	225	225	227	227	225	227	228	230	231	235	236	231	229	230	226	224
Etisalcom ADSL 2Mb eDSL	231	231	231	230	232	231	232	232	230	229	227	232	230	233	234	236	238	238	238	235	235	235	232	231
Kalaam ADSL 2Mb athome	229	227	226	226	226	228	225	230	228	229	228	229	228	230	234	230	234	234	237	234	231	230	229	229
Lightspeed ADSL 2Mb Home 2000	206	183	174	173	173	171	171	173	171	171	172	183	190	194	203	217	223	220	219	222	218	219	217	208
Mena WiMAX 2Mb Boost menaHOME	292	293	285	282	284	281	279	283	280	279	282	283	283	286	288	295	291	291	294	299	302	300	298	297
Nuetel Cable 2Mb Nue-Net	158	158	159	158	158	156	156	156	158	158	161	162	158	158	159	161	161	160	159	160	156	161	161	159
Zain WiMAX 2Mb zain@home	218	212	210	210	208	206	208	205	206	206	210	209	209	209	215	223	222	225	220	220	220	227	227	223

Industry																					
	234	230	229	226	227	224	225	225	225	225	226	227	227	231	236	240	239	240	240	240	240	241	239	235

Ping Time (Latency)

The Ping test measures network latency by sending an ICMP (Internet Control Message Protocol) echo request to the specified server. The time recorded by test probe is the total round trip time (in milliseconds) from the request to the echo response being received from the server.
The measurements reported are the average time for tests to servers located in Bahrain, Europe and the USA.