

Revised Exhibit 337: Calculation of "Flow" Market Share

Step 1: Usage Share of Active Installed Base By Quarter

Browser Type/Release	Date						Usage Share	Total 1Q97	Total 2Q97	Usage Share
	Jan-97	Feb-97	Mar-97	Apr-97	May-97	Jun-97				
CyberDog	1275	1224	1718	1434	2342	1703	4217	5479	0.05%	
MISIE 1.x	528	411	421	621	260	374	1360	1255	0.01%	
MISIE 2.x	30056	38622	48480	54486	45403	44649	117158	144538	1.23%	
MISIE 3.x	248737	419649	551014	690300	695094	885230	1219400	2270624	19.37%	
MISIE 4.x	4191	4391	6260	82879	59703	75655	14842	218237	1.86%	
MISIE 5.x	0	3	0	0	7	2	3	9	0.00%	
MISIE 6.x	0	0	0	0	0	0	0	0	0.00%	
Netscape 0.x	1022	1044	1324	1273	834	763	3390	2870	0.02%	
Netscape 1.x	52065	66616	76245	70527	60578	67911	194926	199016	1.70%	
Netscape 2.x	325453	512435	536774	630983	554063	625548	1374662	1810594	15.45%	
Netscape 3.x	673685	1086730	1535084	1868150	1724516	2378390	3295499	5971056	50.94%	
Netscape 4.x	34350	56938	155152	204498	203712	421132	246440	829342	7.08%	
Netscape 5.x	0	0	0	3	0	0	0	3	0.00%	
Netscape 6.x	0	0	0	0	0	0	0	0	0.00%	
Netscape 7.x	0	0	0	0	0	0	0	0	0.00%	
Netscape 8.x	0	0	0	0	0	0	0	0	0.00%	
Netscape 9.x	0	0	0	0	0	0	0	0	0.00%	
Opera	219	468	653	603	732	641	1340	1976	0.02%	
Other	37642	74537	40854	63438	67910	84083	153033	215431	1.84%	
WebTV	4704	8399	9948	12178	14150	25153	23051	51481	0.44%	
Total							6649321	11721911		



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Browser Type/Release	Date											
	Jul-97	Aug-97	Sep-97	Total 3Q97	Usage Share	Oct-97	Nov-97	Dec-97	Total 4Q97	Usage Share		
CyberDog	1849	1063	1216	4128	0.03%	1696	1679	1739	5114	0.03%		
MSIE 1.x	371	381	158	910	0.01%	79	163	76	318	0.00%		
MSIE 2.x	47299	31070	39418	117787	0.84%	35550	47690	44990	128230	0.73%		
MSIE 3.x	1102939	920935	1051708	3075582	21.97%	982734	1257519	1368624	3608877	20.53%		
MSIE 4.x	84552	182305	208559	475416	3.40%	484110	819084	960642	2263836	12.88%		
MSIE 5.x	1	3	1	5	0.00%	0	61	234	295	0.00%		
MSIE 6.x	0	1	0	1	0.00%	0	0	0	0	0.00%		
Netscape 0.x	567	294	521	1382	0.01%	309	359	340	1008	0.01%		
Netscape 1.x	71643	30391	37273	139307	1.00%	30967	32689	31410	95066	0.54%		
Netscape 2.x	568958	339920	377381	1286259	9.19%	261638	347166	329681	938485	5.34%		
Netscape 3.x	2294198	1780274	1975539	6050011	43.22%	1634058	2174080	2077320	5885458	33.48%		
Netscape 4.x	734420	810665	1003304	2548389	18.20%	1137205	1493750	1606228	4237183	24.10%		
Netscape 5.x	8	6	0	14	0.00%	0	1	1	2	0.00%		
Netscape 6.x	0	0	0	0	0.00%	0	0	0	0	0.00%		
Netscape 7.x	0	0	0	0	0.00%	0	2	0	2	0.00%		
Netscape 8.x	0	0	0	0	0.00%	0	0	0	0	0.00%		
Netscape 9.x	0	3	0	3	0.00%	0	0	0	0	0.00%		
Opera	597	1279	930	2806	0.02%	1680	2141	2968	6789	0.04%		
Other	96530	66998	69544	233072	1.66%	53050	106381	150615	310046	1.76%		
WebTV	20676	21078	21577	63331	0.45%	22438	33570	42061	98069	0.56%		
Total				13998403					17578778			

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Browser Type/Release	Date											
	Jan-98	Feb-98	Mar-98	Total IQ98	Usage Share	Apr-98	May-98	Jun-98	Total 2Q98	Usage Share		
CyberDog	1076	1365	1187	3628	0.02%	1045	1418	990	3453	0.01%		
MSIE 1.x	36	73	72	181	0.00%	102	49	47	198	0.00%		
MSIE 2.x	27527	35441	45222	108190	0.54%	40217	40854	39505	120576	0.47%		
MSIE 3.x	864621	1200121	1616359	3681101	18.45%	1687453	1562813	1705424	4955690	19.24%		
MSIE 4.x	895335	1264934	1624831	3785100	18.97%	1845808	2107319	2003741	5956868	23.13%		
MSIE 5.x	291	335	418	1044	0.01%	193	894	1166	2253	0.01%		
MSIE 6.x	2	0	0	2	0.00%	14	28	16	58	0.00%		
Neiscape 0.x	213	292	205	710	0.00%	221	151	187	559	0.00%		
Neiscape 1.x	18371	21148	23188	62707	0.31%	25301	16609	15826	57736	0.22%		
Neiscape 2.x	189331	240734	287390	717455	3.60%	259546	253097	206335	718978	2.79%		
Neiscape 3.x	1422842	1838045	2139261	5400148	27.06%	1961770	2022455	1741741	5725966	22.24%		
Neiscape 4.x	1473725	1939467	2363580	5776772	28.95%	2400622	2796821	2441361	7638804	29.66%		
Neiscape 5.x	1	1	7	9	0.00%	187	136	66	389	0.00%		
Neiscape 6.x	5	0	0	5	0.00%	1	14	1	16	0.00%		
Neiscape 7.x	0	0	0	0	0.00%	0	0	0	0	0.00%		
Neiscape 8.x	0	0	0	0	0.00%	2	1	0	3	0.00%		
Neiscape 9.x	0	0	0	0	0.00%	0	2	0	2	0.00%		
Opera	3877	8354	11002	23233	0.12%	10144	12076	10160	32380	0.13%		
Other	75558	89929	86780	252267	1.26%	86561	108844	130687	326092	1.27%		
WebTV	38337	41948	61744	142029	0.71%	56021	62662	92502	211185	0.82%		
Total				19954581					25751206			

Step 1: Usage Share of Active Installed Base By Quarter

Browser Type/Release	Date			Usage Share
	Jul-98	Aug-98	Total 3Q98	
CyberDog	1136	235	1371	0.01%
MSIE 1.x	38	26	64	0.00%
MSIE 2.x	35670	28847	64517	0.46%
MSIE 3.x	1355558	1269757	2625315	18.74%
MSIE 4.x	1903154	1931238	3834392	27.38%
MSIE 5.x	17944	16243	34187	0.24%
MSIE 6.x	3	2	5	0.00%
Neiscape 0.x	128	81	209	0.00%
Neiscape 1.x	9188	8256	17444	0.12%
Neiscape 2.x	161685	119129	280814	2.01%
Neiscape 3.x	1421166	1097015	2518181	17.98%
Neiscape 4.x	2205669	1927895	4133564	29.51%
Neiscape 5.x	55	44	99	0.00%
Neiscape 6.x	23	1	24	0.00%
Neiscape 7.x	0	0	0	0.00%
Neiscape 8.x	6	6	12	0.00%
Neiscape 9.x	0	0	0	0.00%
Opera	9582	6793	16375	0.12%
Other	195310	91509	286819	2.05%
WebTV	89118	102960	192078	1.37%
Total			14005470	

Step 2: Total Users By Quarter

Browser Type/Release	Quarter						
	1Q97	2Q97	3Q97	4Q97	1Q98	2Q98	3Q98
CyberDog	20,916	17,472	12,321	13,436	9,475	7,783	6,262
MSIE 1.x	6,745	4,002	2,716	835	473	446	292
MSIE 2.x	581,088	460,930	351,570	336,891	282,552	271,782	294,701
MSIE 3.x	6,048,058	7,240,996	9,179,984	9,481,392	9,613,648	11,170,274	11,991,904
MSIE 4.x	73,614	695,955	1,419,020	5,947,645	9,885,255	13,426,959	17,514,722
MSIE 5.x	15	29	15	775	2,727	5,078	156,159
MSIE 6.x	0	0	3	0	5	131	23
Netcape 0.x	16,814	9,152	4,125	2,648	1,854	1,260	955
Netcape 1.x	966,806	634,660	415,803	249,761	163,767	130,139	79,681
Netcape 2.x	6,818,136	5,773,965	3,839,221	2,465,627	1,873,722	1,620,598	1,282,701
Netcape 3.x	16,345,225	19,041,634	18,058,048	15,462,521	14,103,151	12,906,499	11,502,538
Netcape 4.x	1,222,309	2,644,763	7,606,421	11,132,104	15,086,751	17,218,093	18,881,279
Netcape 5.x	0	10	42	5	24	877	452
Netcape 6.x	0	0	0	0	13	36	110
Netcape 7.x	0	0	0	5	0	0	0
Netcape 8.x	0	0	0	0	0	7	55
Netcape 9.x	0	0	9	0	0	5	0
Opera	6,646	6,301	8,375	17,836	60,676	72,985	74,798
Other	759,023	687,007	695,672	814,566	658,826	735,021	1,310,131
WebTV	114,330	164,172	189,030	257,651	370,926	476,017	877,373

Internet Users 32,979,725 37,381,050 41,782,375 46,183,700 52,113,845 58,043,990 63,974,135

Steps 3, 4, 5 and 6: New Browsers by Type and Flow Market Shares

	Quarter					
	2Q97	3Q97	4Q97	1Q98	2Q98	3Q98
Min. New IE Browsers	1,815,293	2,662,056	4,830,793	4,071,823	5,100,807	5,083,393
Min. New Nav Browsers	4,118,873	4,961,699	3,525,689	3,954,678	2,132,229	1,663,307
Min. New Other Browser	49,843	35,597	198,090	156,115	193,596	978,278
IE to Nav Switchers	268,381	336,076	438,132	630,702	791,386	994,987
Nav to IE Switchers	1,268,465	1,405,209	1,496,183	1,465,634	1,561,464	1,593,876
Total New Browsers	7,520,854	9,400,637	10,488,887	10,278,951	9,779,482	10,313,840
IE MS	27.71%	31.89%	50.23%	45.75%	60.25%	58.93%
Nav Market Share	71.63%	67.73%	47.88%	52.73%	37.77%	31.58%

- (1) The "active installed base" by browser type and release for each quarter is the weighted average of the shares of the active installed base as reported by AdKnowledge.
- (2) The approximate number of users of each browser type and version is obtained by multiplying each browser's share of the "active installed base" by the number of users of the Internet in that quarter (Schmalensee Report, Appendix B)
- (3) The minimum number of new users of each browser type and release is the sum over all browsers of the difference (if positive) between the number of users in two consecutive quarters.
- (4) Step 3 underestimates the number of new browsers because the latter quarter's estimate for the number of users of each browser type is reduced as users switch away from that browser type. Step 4 adjusts the total for this switching. The estimate of the number of users switching away from each browser type is based on Microsoft's estimates of the percentage of users switching from one browser type to another in its browser market model of February, 1998. Microsoft assumed that 18% of Navigator users will switch to Internet Explorer annually and 13% of Internet Explorer users will switch to Navigator annually. (MS98 02035326). Because these estimates of the switch rates only account for switching from one browser type to another and omit switching to browser types other than Microsoft and Netscape as well as people who simply quit using the Internet, these switching percentages are rounded up to the nearest whole percentage when calculating the quarterly switching percentage. This yields approximate quarterly switching percentages of 5% and 4% for Navigator and Internet Explorer, respectively. The number of switchers away from a given browser type is the percentage given previously, multiplied by the initial quarter's installed base for that browser type. (Because the proportion of browsers in the "other" category is relatively small, I ignore people switching from these browsers in calculating the market share.)
- (5) The total number of new browsers for each browser type is the sum of the new browsers (by release) calculated in the third step plus the number of switchers away from that browser type calculated in step 4 above.
- (6) The "flow" measure of market share (i.e., a firm's share of current sales) is the number of new browsers of a particular type divided by the total number of new browsers of all types.