

Microsoft's Windows Vs. Google's Chrome -Who Will Win The Market??

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INTRODUCTION

Google has launched its new Chrome OS (Operating System) in the 2nd half of 2010, this became one of the most popular news; posted on Google's official blog.

"It's been an exciting nine months since we launched the Google Chrome browser. Already, over 30 million people use it regularly. We designed Google Chrome for people who live on the web - searching for information, checking email, catching up on the news, shopping or just staying in touch with friends. Google Chrome OS is an open source, lightweight operating system that will initially be targeted at net books. Later this year, we will open-source its code, and net books running Google Chrome OS will be available for consumers in the second half of 2010."(Source: The Official Google Blog).

Basically, an Operating System is a bridge between the computer and its user, it takes instructions from users to perform the task in the computer and then again, meet the user with drawn results or in more generalized form, an OS is a software which act likes a means of communication between a user and the user's computer hardware. Microsoft's Windows XP, Windows Vista and Windows 7, Apple's Mac X and the Linux based Ubuntu are the most popular operating systems presently. Chrome OS would be an open ware (free for consumption and distribution which is a very common feature of Linux based operating systems- moreover, open wares provide the code on which they have been made to the users by which they can develop it further or can make changes to make it more functional to them according to their individual needs) again as Google says- It will initially be targeted at net books -a light version of laptop uses Intel atom processor for processing RAM 256 to 512MB- that's why ranges in \$250 segment focuses only to the internet access and needs very light version of operating system and could be understood easily if we say that it is very similar to the main frame computers of 2001. So it left a room for Microsoft and Apple to think again about their OSs- whether they will be able to compete against the Internet giant because presently available Google softwares are doing tremendously well such as the Chrome browser (gained 7% of the world internet users from 3.1% in 12 months from the time it was started), Picasa (photo viewing software just as windows picture and fax viewer) etc. Both are freeware and can be downloaded from Google's website freely and we can expect more from Google's OS just seeing the performance of Picasa and Chrome browser. The truth about Window's and Microsoft's other product's much success is that, very few know about what is Ubuntu and other Linux based OSs, what it costs and from where they can get it! (Linux makers do not advertise! We can't expect anyone who is distributing his product free and also advertising for its popularity). In case of Google's Chrome OS, coming from the company that has the world's most preferred home page and search engine, it would be very hard to remain in dark about it. The x factor would be its speed as Google commits because what Microsoft says about Windows is that they are more secure. The researchers personally feel that Linux is doing better in terms of security- it has no virus malware and has less other reasons for which one can fear about security. But there are no free lunches at all, think what if Chrome OS will be in all systems worldwide- then the whole power would be in Google's hand and they will become market leaders. They will be able to do anything with our data, be able to access our computer any time they want. Yes, it might be able to save you from viruses, malwares and other security threats because they are targeting firstly internet users, but what if they themselves want to harm us in a similar kind of situation- when we have given our home keys in the hands of a thief?

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GOOGLE'S VISION FOR CHROME

"Speed, simplicity and security are the key aspects of Google Chrome OS. We're designing the OS to be fast and lightweight, to start up and get you onto the web in a few seconds. The user interface is minimal to stay out of your way, and most of the user experience takes place on the web. And as we did for the Google Chrome browser, we are going back to the basics and completely redesigning the underlying security architecture of the OS so that users don't have to deal with viruses, malware and security updates. It should just work.

Google Chrome OS will run on both x86 as well as ARM chips and we are working with multiple OEMs to bring a number of net books to market next year. The software architecture is simple - Google Chrome running within a new windowing system on top of Linux kernel. For application developers, the web is the platform. All web-based applications will automatically work and new applications can be written using your favorite web technologies. And of course, these apps. will run not only on Google Chrome OS, but on any standards-based browser on Windows, Mac and Linux, thereby giving developers the largest user base of any platform." (Source: The Official Google Blog)

WHAT AN OS IS ALL ABOUT AND THE NUMBER OF USERS AFFECTED BY IT

Would only the Netbook users use Chrome OS? We don't think so, because we always want something better. There would be no harm to try something which is free to use, and we believe that we all will be loyal with Windows at the cost of our pockets. So we first try to calculate the number of persons for whom we can assume that they know about Google, we can directly get the number of internet users and number of computers all over the world. We are tracking it according to INDIA - our motherland.

Table 1: Number Of Internet Users (By CIA According To Oct2009)

Iceland	202,300 (2007)
India	80 million (2007)
Indonesia	13 million (2007)

Number of Internet Users (by International Telecommunication Union Wti_informatiotechnologypublic.xls)

India contributes 81,000,000 users to the total world users of 1,605,293,500.

Graph 1: Asia Top 10 Internet Countries

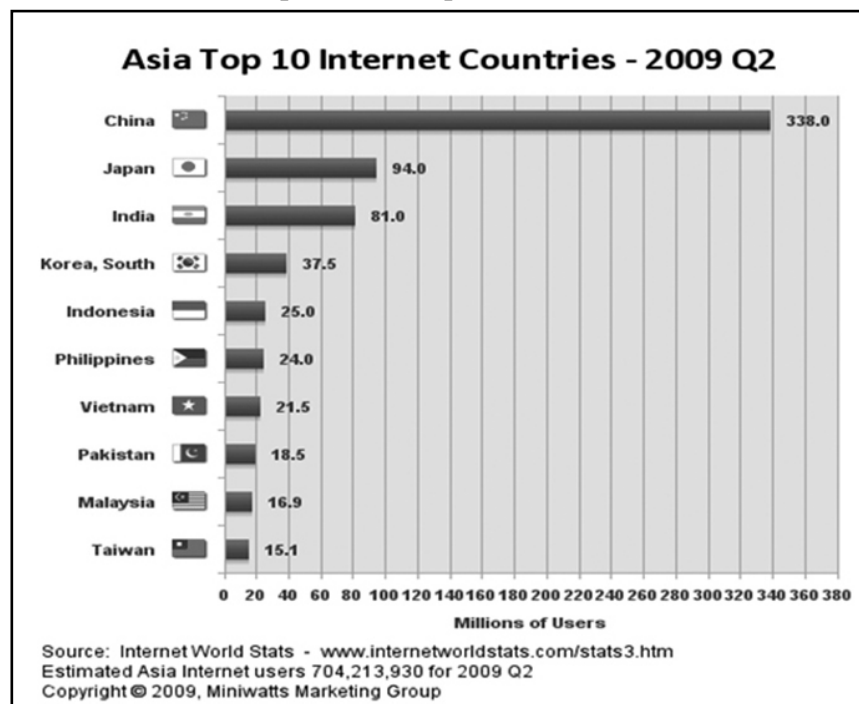


Table 2: World Internet Usage And Population Statistics

WORLD INTERNET USAGE AND POPULATION STATISTICS						
World Regions	Population (2009 Est.)	Internet Users Dec. 31, 2000	Internet Users Latest Data	Penetration (% Population)	Growth 2000- 2009	Users % of Table
<u>Africa</u>	991,002,342	4,514,400	86,217,900	8.7 %	1,809.8 %	4.8 %
<u>Asia</u>	3,808,070,503	114,304,000	764,435,900	20.1 %	568.8 %	42.4 %
<u>Europe</u>	803,850,858	105,096,093	425,773,571	53.0 %	305.1 %	23.6 %
<u>Middle East</u>	202,687,005	3,284,800	58,309,546	28.8 %	1,675.1 %	3.2 %
<u>North America</u>	340,831,831	108,096,800	259,561,000	76.2 %	140.1 %	14.4 %
<u>Latin America/Caribbean</u>	586,662,468	18,068,919	186,922,050	31.9 %	934.5 %	10.4 %
<u>Oceania / Australia</u>	34,700,201	7,620,480	21,110,490	60.8 %	177.0 %	1.2 %
WORLD TOTAL	6,767,805,208	360,985,492	1,802,330,457	26.6 %	399.3 %	100.0 %
<p>NOTES: (1) Internet Usage and World Population Statistics are for December 31, 2009. (2) Demographic (Population) numbers are based on data from the <u>US Census Bureau</u>. (3) Internet usage information comes from data published by <u>Nielsen Online</u>, by the <u>International Telecommunications Union</u>, By <u>GfK</u> , local Regulators and other reliable sources. (4) For definitions, Disclaimers, and navigation help, please refer to the <u>Site Surfing Guide</u> .(5) Information in this site may be cited, giving the due credit to <u>www.internetworldstats.com</u>. Copyright © 2001 - 2010, Miniwatts Marketing Group. All rights reserved worldwide. <u>Source:</u> http://www.internetworldstats.com/stats.htm</p>						

Again *internetworldstate.com* supports the same figure of 81 million internet users in India. But the country's telecom regulatory authority makes you meet a different picture of the same. TRAI's Report ([traireportIndicatorReport1oct09.pdf](#)), cannot be wrong because these are not derived by surveys, but are official statistics of a country. The report shows that India presently has approximately 147.64 million internet connections and the number of users must be more than that because in this developing country, not everyone can afford a computer, so they do visit cyber cafés frequently, we cannot have the exact calculation of that. But for these 147.64 million, we can expect that they know what is Google (most of the internet sites use Google search engine and get result from it and then mix it up with their own preferred results) and this is the advantage for Google that more population know them than Microsoft or different versions of windows

So we first start understanding the different Operating Systems, and for convenience of writing, we use the word OS at the place of Operating System, which is also very popular in between advanced computer users but to develop a common understanding of OS, we start with a graphical presentation.

OS is a bridge between a user and a computer and in technical language, it gives you the ground to interact with your computer. For Foundation for an operating system (On which an OS is waived), we are considering only popular ones.

1. Microsoft's windows base

2. Linux

3. UNIX

Main structure or we call it Operating System

1. Microsoft's windows based operating systems (paid biggest in the market) :

Windows XP, Window Vista, windows 7.

2. Linux based (available free or very low priced for use) : Ubuntu, Redhat, Mandriva

Linux, Back Track.



3. UNIX : Junix, Mac's operating systems X and further more.

Table 3: Comparative Analysis of Three Operating Systems : Windows, Linux and Mac

Category	Windows	Linux	Mac
Security	There are more than 150,000 virus malwares present for Windows XP, Vista is safer and Windows 7 is the safest option.	Linux has better safety than any other type of OS available.	This unix avatar is more safer than windows, but still you find more enemies than Linux
Safety (what is The meaning of safety? Here the term implies only the amount of safety it provided to the software installed on your system.	Many a time, you will find many softwares being crashed.	You hardly face any software crash but many times, you might get a slow system response.	A Mac user, even an advanced one, rarely has had acquaintance with it.
Software Compatibility	All softwares supports Windows XP, a few less Vista, again most of them support Windows 7 also because you can run any software in compatibility mode of previous windows version.	You will find many emulators which can run most of your windows based software on Linux ground, but the idea does not work on all. You can't run those ones which require registry settings and many other heavy softwares, but most of the commercial users do not prepare their software for Linux versions.	95% paid and unpaid software do support Mac but some Power users can feel their collar tight because it might disappoint them. Many small Softwares can only run through Emulator, but they might not work as expected.
Hardware Support	All hardware support Windows, but all Mac hardware might not be supportable for these (Apple makes computer under the brand name of Mac ; you might have seen a commercial at the time of Vista's launch.	HP & Compaq do not support Linux, Dell now officially supports Linux.Many machines support and do not support different versions of Linux OS.	Many meant for Mac books and Others may or may not support Mac X leopard.
Drivers	All hardware makers give driver support for the most popular OS in the world. XP and many Vista versions still don't have supportable drivers.	Might find many types of drivers but would not be able to find wireless lan Drivers for almost all types of machines.	Apple themselves provide all required support for Mac. It depends whether they are providing it or not.
Price	Very Nominal.	Almost free or costs quite less for some OS.	Mac OS is very expensive.
Appearance	XP is ordinary presently;Vista had a better look and Windows 7 has a great look.	Different OS provide different facilities.	The current one Mac X (Leopard) Has the aqua look and looks great.
Source : Self testing, Internet polls, reviews and information gained via the internet.			

So now, after the beginning of a common understanding, we dissect these three for the selection of best one, and the facts and figures for these have been tabulated in Table 3.

CATEGORY DISSECTION

✿**Security** : It would be wrong when you say that your product is the safest one, but actually nobody cares to break your security because 80% users use Windows XP- that's why most of the hackers target only XP and again, about other versions of Windows, Linux and Mac, they are secure only till the time when they do not have any big market share, it may also be possible that the other OS we are using might have viruses but we cannot get informed. Now hackers do not make silly viruses which will spread text like 'I love you' or it will create a folder again and again in the folder but they make them like that these will use very little amount of your internet connection and will continuously send your password and personal information to strangers, it's unbelievable but it is the truth.

✿**Safety** : Again, very few people use Linux and Mac and again, majority in these don't have power users, they might be only in minority, that means very few users use every single bit of their computer for which they have paid. We cannot have any fair idea until rubber meets the road.

✿**Price** : If you are using an OS just for surfing, chatting, sending and receiving emails, then why to pay more for Windows and Mac- just go for Linux but the real problem is not with the price. But until now, 95% users even don't know what Linux really is. Most of them even can't install Windows on their own, which they have been using from past many years.

✿**Appearance & Graphics** : Think you are well prepared with a tie, court or in a jacket with polished shoes and working in a farm somewhere in deep Africa, similarly, the same is with an OS also, these GUIs (Graphic User Interface) can give you best of the advanced look, but do you really require that?

✿**Drivers** : What about that condition when you can only use your PC or laptop as a paper weight because it cannot play sounds, doesn't have a wireless connection, but in your office you only have wireless internet connection and what about the PC which cannot be compared even with a TV also for visuals? We must remember that Linux PC might not have these drivers. Then instead of a PC, we will rather be having it only as the priciest paperweight, but again, companies do not feel any major requirement to get Linux versions of drivers because there are very few users available and it might be very costly for them to manufacture these.

CONCLUSION

According to data available on the Internet, in the year 2008, we were with 1 billion computers and till the year 2015, the number would cross the 2 billion mark, but the effect of Netbooks might be negative or also, it may be possible that there would be a separate market for them (likewise iPods- that were a new product in the market few years back). There might be a different product in coming years or months which again can affect the whole equation very dramatically.

Steve Ballmer- the CEO of Microsoft says Linux has only a Price advantage over windows you even don't know who is the manufacturer of it (from where it came) but is this really true? A big question!

Ballmer might be laughing at Google's OS approach but a couple of months before it launched its Bing search engine, what was the need of it? if they are really not afraid of Google, which is the fastest and most reliable search engine and the most popular one at that! But what about the drivers? We must understand if the mass market will move to Linux, then we will be having a good packet of drivers and many viruses, worms, spywares and malwares as well, but there is no need of panicking, these all can be made only when one has a very good knowledge of an OS and it will take time to get prepared for this. Just because of its popularity, Google has won half of the battle in India, and Microsoft has to cover a very long way. If the changes were not acclimated, then it is a possibility that the next generation will read Microsoft in their history books only.

But the question that still stands- That will Google not draw an illegal or unexpected benefit from the uncontrolled access that it would have to the systems of its OS users.

BIBLIOGRAPHY

Magazine:-

1) LINUX articles on CHROME OS

2)PCWORLD November 2009 edition page 90-93 (how to deploy windows 7) and 58-59 (functions)

Web Pages:-

- 1.<http://googleblog.blogspot.com/2009/07/introducing-google-chrome-os.html>
- 2.<http://www.wired.com/gadgetlab/2009/07/five-things-googles-chrome-os-will-do-for-your-netbook/>
- 3.http://www.google.com/url?q=http://en.wikipedia.org/wiki/Features_new_to_Windows_Vista&ei=50z5SvrTE-jkAX_oPm8Cw&sa=X&oi=nshc&resnum=1&ct=result&cd=1&ved=0CAgQzgQoAA&usg=AFQjCNFShFsZGR8G4AInm7_BSSLaoJLDQA
- 4.http://www.google.com/url?q=http://en.wikipedia.org/wiki/XP&ei=2U35SsaOOs6NkAXEtazCCw&sa=X&oi=nshc&resnum=1&ct=result&cd=1&ved=0CAgQzgQoAA&usg=AFQjCNHvcxQ_B6kG5qPmvXLt9zkQqVAXkg
- 5.http://www.google.com/url?q=http://en.wikipedia.org/wiki/Linux_XP&ei=2U35SsaOOs6NkAXEtazCCw&sa=X&oi=nshc&resnum=1&ct=result&cd=2&ved=0CAkQzgQoAA&usg=AFQjCNFCX1ZRIsW21V4ikO4f68MECqtxw
- 6.http://en.wikipedia.org/wiki/Windows_7
- 7.http://en.wikipedia.org/wiki/Features_new_to_Windows_7
- 8.http://en.wikipedia.org/wiki/Windows_7_editions
- 9.http://en.wikipedia.org/wiki/Google_Chrome_OS
- 10.http://en.wikipedia.org/wiki/Windows_Vista
- 11.http://en.wikipedia.org/wiki/Windows_XP
- 12.http://en.wikipedia.org/wiki/Chrome_os
- 13.http://en.wikipedia.org/wiki/Mac_os
- 14.http://en.wikipedia.org/wiki/Mac_OS_X_Snow_Leopard
- 15.<http://en.wikipedia.org/wiki/Ubuntu>
- 16.[http://en.wikipedia.org/wiki/Chrome_\(browser\)](http://en.wikipedia.org/wiki/Chrome_(browser))
- 17.<http://en.wikipedia.org/wiki/Macintosh.htm>
- 18.<http://en.wikipedia.org/wiki/Picasa>
- 19.http://en.wikipedia.org/wiki/Usage_share_of_web_browsers
- 20.<http://en.wikipedia.org/wiki/Netbook.htm>
- 21.http://en.wikipedia.org/wiki/Windows_NT.htm
- 22.http://en.wikipedia.org/wiki/Windows_Me.htm
- 23.http://en.wikipedia.org/wiki/Windows_2000.htm
- 24.<http://windows.microsoft.com/es-ES/windows-7?os=win7>
- 25.<http://www.microsoft.com/windows/windows-7/get/>
- 26.<http://masoodmemon.wordpress.com/2008/11/01/five-reasons-why-windows-vista-failed/>
- 27.<http://itc.virginia.edu/students/inventory/compare/home.html>
- 28.<http://itc.virginia.edu/students/inventory/2005/>
- 29.<http://itc.virginia.edu/students/inventory/1997/>
- 30.<http://itc.virginia.edu/students/inventory/1998/>
- 31.<http://itc.virginia.edu/students/inventory/1999/>
- 32.<http://itc.virginia.edu/students/inventory/2000/>
- 33.<http://itc.virginia.edu/students/inventory/2001/>
- 34.<http://itc.virginia.edu/students/inventory/2002/>
- 35.<http://itc.virginia.edu/students/inventory/2003/>
- 36.<http://itc.virginia.edu/students/inventory/2004/>
- 37.<http://itc.virginia.edu/students/inventory/2005/>
- 38.<http://itc.virginia.edu/students/inventory/2006/>
- 39.<http://itc.virginia.edu/students/inventory/2007/>
- 40.<http://itc.virginia.edu/students/inventory/2008/>
- 41.<http://news.softpedia.com/news/It-Will-Be-Windows-7-SP1-to-Go-Against-Google-Chrome-OS-121863.shtml>
- 42.<http://www.reuters.com/article/businessNews/idUSTRE56D5MU20090714>
- 43.<http://hbswk.hbs.edu/item/4834.html>
- 44.<http://www.daniweb.com/news/story220432.html#>
- 45.<http://news.zdnet.co.uk/software/0,1000000121,39211451,00.htm>
- 46.<http://www.highbeam.com/doc/1G1-81431806.html>
- 47.<http://www.microsoft.com/presspass/legal/european/04-24-06windowsexpnsalesfs.msp>
- 48.<http://www.science-portal.org/in/71>
- 49.<https://www.cia.gov/library/publications/the-world-factbook/rankorder/2153rank.html>
- 50.<http://www.google.com/search?client=safari&rls=en&q=Windows+XP+vs.+Vista+vs.+Linux&ie=UTF-8&oe=UTF-8>
- 51.http://www.internetnews.com/ent-news/article.php/7_918881
- 52.<http://www.swivel.com/graphs/show/19608943>
- 53.<http://www.internetworldstats.com/stats3.htm>
- 54.<http://www.trai.gov.in/WriteReadData/tra/Upload/Reports/48/IndicatorReport1oct09.pdf>
- 55.<http://www.coolinterview.com/interview/15538/>
- 56.<http://www.aneke.com/internet.html>
- 57.<http://www.labnol.org/internet/usage-statistics-for-search-engines-browsers/7729/>
- 58.<http://www.cw.com.hk/content/five-reasons-some-xp-users-should-hold-windows-7>
- 59.<http://windowsitpro.com/article/articleid/23049/wininfo-short-takes-windows-xp-launch-special-edition.html>
- 60.http://www.theeldergeek.com/slipstreamed_xpsp3_cd.htm
- 61.<http://www.essaysprofessors.com/samples/Computer-Technologies/Windows-XP-vs-Macintosh-OS-X-Comparison-and.html>