



Introduction: Desktop Linux Client Survey

The OSDL Desktop Linux Working Group (DTL) is focused on accelerating the use of Linux on the enterprise desktop and identifying technical and social barriers to adoption. In October 2005 DTL launched a one month online Desktop Linux Client survey that received over 3300 responses. The goal of the survey was to determine the key issues driving Linux on the desktop as well as the major barriers to Linux desktop adoption.

Discussion Points

- Top reasons for deploying Linux on the desktop
- Applications critical to Linux deployment
- Browser applications and plug-ins that must be supported
- Top inhibitors of Linux desktop adoption

Top reasons for deploying Linux on the desktop

The top reasons for deploying Linux on the desktop (listed in order):

- Employees requesting Linux (user demand)
- My competitors have successfully deployed Linux
- TCO (Total Cost of Ownership)
- Reduce license costs
- Security
- Source code availability (ability to customize)
- Corporate direction
- Unhappy with existing desktop operating system

We found the top two results to be intriguing in that conventional wisdom suggests that Linux is initially adopted as a developer tool (user demand) but is generally not viewed as a competitive issue. We feel that this represents a unique cultural shift within organizations to stay aggressive in analyzing and deploying open source software and to not be left behind.

We also found it interesting that TCO and the reduction of licensing costs, which are more economic than technical benefits ranked higher than security. One explanation based on the write-in essays appears to be that security is not considered an issue with Linux and therefore TCO and licensing costs are areas of positive gain, whereas security has already reached a baseline plateau.

Applications critical to Linux deployment

The following applications (listed in order) were deemed most critical to Linux desktop deployments:

1. Email / messaging
2. Office Productivity Tools (examples: Text Documents, Spreadsheets, Presentations, Databases)
3. Browser
4. Database Applications
5. Developer Tools (editors, compilers, development environments, etc.)
6. Applications specific to your business (examples: construction applications, manufacturing applications, etc.)
7. Internally Developed Applications
8. Secure Remote Access / VPN
9. Personal Information Manager (PIM)
10. Audio or Video players
11. Instant Messaging

Note that email was considered more critical than either a browser or office productivity tools. A number of possible conclusions relating to email can be drawn from these results: email truly is the killer app, regardless of platform; that without a quality email application Linux on the desktop is not feasible; that application vendors should focus on developing a quality email application for the Linux desktop.

Browser applications and plug-ins that must be supported

The following browser plug-ins and applications (listed in order) were highlighted as most necessary for desktop Linux to support:

- Macromedia Flash
- Adobe Acrobat Reader
- Open Office
- Quicktime
- Shockwave
- WMF - audio / video
- Realplayer / Helix
- Online meeting client software
- Other write-in: Java and ActiveX

There was significant interest in browsing the web with the appropriate range of plug-ins and accessories necessary for the experience to be akin to that of Windows or MacOS. Ultimately, desktop Linux must provide support for all web content, multimedia or otherwise. One other point of interest from ancillary research was the notion that a Linux desktop browser should be able to open and display OpenDocument format files natively.

Top inhibitors of Linux desktop adoption

The top inhibitors to Linux desktop adoption listed in order of results:

- Application support
 - Application support must be available for new and existing non-open source desktop applications and utilities such as VPN clients. Example applications included: Photoshop, PageMaker, AutoCAD, and Quicken.
- Peripheral support
 - Several respondents commented on the need to simplify the process by which one can install and manage peripheral devices-USB support was highlighted multiple times. Networked printing has also proven problematic.
 - Devices respondents felt Linux must support to meet business needs: PDA (Email and Messaging capable); Digital Camera/Video; Personal Storage Devices.
- End user training
 - Making end-users comfortable with the Linux interface, and explaining the benefits/trade-offs will increase adoption. Multiple respondents suggest that Linux should become more Mac-like in it's installation and deployment process.

Application support, peripheral support and end-user training were cited as the largest inhibitors of Linux desktop adoption. Write-in essays suggest that end user training issues could be alleviated if Linux natively supported more common desktop applications such as Microsoft Office and Adobe Photoshop. Peripheral support is a murky adoption issue when one considers that certain devices, such as digital cameras are not strictly for business users, whereas PDAs and storage devices are more geared toward business but also have a consumer aspect.

- HW OEM support
 - Out of the box, many Linux distributions require additional configurations to work with specific vendor hardware. Examples include video and audio drivers. Additionally, networking and wi-fi configuration must become plug and play.
- Web Content
 - Linux desktop web browser must have the ability to play/run all web content without jumping through major hoops. This includes the ability to easily run and install browser plug-ins.
- Windows applications
 - Linux desktop must be able to fully run Windows applications easily and with full functionality.
- Ease of use and installation
 - The average user must be able to install and manage applications just like Windows and Mac OS.

Supplementary Notes

OSDL Contacts

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Research Design

Survey questions were developed by the OSDL Desktop Linux Working Group. The survey URL was distributed via email and was picked up by a number of newsgroups and news outlets. 3,374 individuals responded to the survey.

Biases

31% of respondents classified themselves as developers

63% of respondents are under 35 years of age

15% of respondents are in the education field (top category)

81% of respondents were from North America and Western Europe

Biased towards those that have already deployed Linux (50%)

Statistic Anomalies

Question #12

Which Linux Distributions are you considering or currently running on the desktop?

- The survey had more exposure in certain distribution communities which may have initially skewed the results. We found that as the survey progressed the specific percentages in this question changed but the overall results did not.
- Lacks meaningful data. (i.e. why distro is used)

Question #13

Rate the factors influencing your organization's decision to migrate to Linux on the Desktop?

- We found the respondents may have approached inhibitors from a literal end user perspective (meaning they, themselves), rather than across a business landscape.

Question #15

What are the top reasons your company chose to deploy Linux on the desktop? (Please rank at least the top three reasons)

- No definition of priority (is 1 high or low priority?)
- Variable responses. Some listed the top three, other listed all 10.

Question #21

What does your Linux desktop browser need to support? (Select all that apply)

- OpenOffice is not a browser plugin.
- Shockwave and Flash are essentially the same plugin.


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Survey Results



OSDL

Linux Client Survey

Report created on: Nov 20 2005 3:17PM

To type in your initial question, click Edit. Insert adds a new question either above or below this one.

How many employees does your organization have that use computers (desktops, workstations, laptops, thin clients, fixed 1. function)?

	Number of Responses	Response Ratio
1-100	2179	65%
101-500	480	14%
501-1,000	164	5%
1,001-5,000	287	9%
5,001-20,000	144	4%
More than 20,000	120	4%
Total	3374	100%

What percentage of your computers are running Linux today 2. (desktops, workstations, laptops, thin clients, fixed function)?

	Number of Responses	Response Ratio
0%	408	12%
1-19%	1470	44%
20-39%	332	10%
40-59%	305	9%
60-79%	238	7%
80-100%	621	18%
Total	3374	100%

What percentage of computers in your organization are shared by 3. multiple users?

Number of Responses	Response Ratio
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0%		599	18%
1-19%		1348	40%
20-39%		441	13%
40-59%		353	10%
60-79%		246	7%
80-100%		387	11%
Total		3374	100%

4. What percentage of your desktop clients are used for the following purposes?

The top percentage indicates total respondent ratio; the bottom number represents actual number of respondents selecting the option

	1 0%	2 1-20%	3 21-40%	4 41-60%	5 61-80%	6 81-100%
1. Fixed Function (examples: point-of-sale, kiosk terminals, factory floor terminal, etc.)	59% 1979	30% 1029	5% 162	2% 77	2% 70	2% 57
2. Transactional Desktop (examples: travel agent desktop, help desk desktop, bank teller, telemarketer desktop, etc.)	58% 1946	28% 951	7% 222	4% 135	2% 61	2% 59
3. Technical Workstation (examples: engineering design or CAD/CAM workstation, animated graphics, visualization, software development, or EDA, etc.)	18% 620	31% 1060	16% 544	13% 446	11% 381	10% 323
4. Knowledge Worker Desktop - Office productivity tools (examples: manager, consultant laptop, administrative assistant desktop, sales person's laptop, etc. (examples: spreadsheet, databases, presentations)	11% 358	28% 943	20% 662	15% 504	13% 445	14% 462
5. General Purpose Desktop (examples: small office or home office use, non-technical end user, student, casual email user, etc.)	15% 500	26% 871	14% 458	12% 396	13% 453	21% 696

5. What is your job within your company or organization?

	Number of Responses	Response Ratio
Engineering Manager	116	3%
Software Developer / Systems Integrator / Consultant	1030	31%
Service Manager	42	1%
IT Managers / IS Manager / MIS Manager / Data Center Manager	477	14%
IT / IS / MIS Director	226	7%
IT Executive (VP, Executive VP, CTO / CIO / Chief Architect)	269	8%
Managing Director / General Manager	193	6%
Industry Analyst	18	1%
Marketing / Strategy / Accounting / Financial	65	2%
Program Manager / Project Manager / System Manager	215	6%
Other	723	21%
Total		3374
		100%

6. What type of computers does your organization use as desktops/clients?

The top percentage indicates total respondent ratio; the bottom number represents actual number of respondents selecting the option

	1 0%	2 1-20%	3 21-40%	4 41-60%	5 61-80%	6 81-100%	7 Don't know
1. Desktop computers	2% 75	8% 277	9% 298	17% 574	27% 914	35% 1167	2% 51
2. Laptops / portables	10% 333	51% 1670	17% 555	12% 385	4% 145	5% 166	1% 21
3. Thin Clients & Terminals	71% 2085	20% 596	3% 82	2% 55	1% 42	2% 47	1% 40
4. Kiosks	85% 2476	12% 339	1% 18	1% 16	0% 2	0% 11	2% 45
5. Engineering Workstations	47% 1430	31% 923	9% 276	5% 140	3% 100	4% 106	2% 47
6. Mobile / Handhelds	54% 1620	37% 1122	4% 113	2% 46	1% 22	1% 27	2% 53

7. What is the principle business activity at your company or location? (select one only)

	Number of Responses	Response Ratio
Agriculture, Forestry, and Fishing	32	1%
Architecture / Construction / Real Estate	50	1%
Computer Networking and Telecommunications Industry	559	17%
Consulting (Independent)	338	10%
Education	524	16%
Entertainment / Recreation / Tourism	49	1%
Finance / Banking / Accounting	106	3%
Government (Federal, military)	72	2%
Government (State, local, regional)	110	3%
Healthcare services / Medical / Pharmaceutical / Biotech	130	4%
Hotel / Food service / Hospitality	17	1%
Insurance / Legal	49	1%
Manufacturing (computer / OEM / communications / software)	297	9%
Manufacturing (other than computer / communications)	132	4%
Media / TV / Cable / Print / Radio / Advertising / Communications	146	4%
Mining / Materials / Construction	20	1%
Non-profit / Religious	104	3%
Reseller / VAR / VAD / Integrator / Distributor (computer)	93	3%
Retail / Wholesale / Distribution / Trade	104	3%
Transportation	41	1%
Utilities / Energy	32	1%
Other, Please Specify	369	11%

Total 3374 100%

8. In which region of the world do you reside?

	Number of Responses	Response Ratio
North America	1260	37%
South America	184	5%
Asia	153	5%
Africa	54	2%
Middle East	33	1%
India	20	1%
Australia	153	5%
Europe	1468	44%
Other, Please Specify	49	1%
Total	3374	100%

9. In what country do you reside?

3182 Responses

10. What was the year you were born?

	Number of Responses	Response Ratio
1930s	13	0%
1040s	98	3%
1950s	378	11%
1960s	718	21%
1970s	1356	40%
1980s	756	22%
Other, Please Specify	55	2%
Total	3374	100%

11. How critical are the following applications to your Linux deployment?

The top percentage indicates total respondent ratio; the bottom number represents actual number of respondents selecting the option

	1 Not important	2 Somewhat important	3 Extremely important	4 Critical
1. Browser	4% 125	15% 492	32% 1075	50% 1663
2. Developer Tools (editors, compilers, development environments, etc.)	17% 559	25% 850	26% 872	32% 1068
3. Personal Information Manager (PIM)	25% 829	38% 1267	24% 814	13% 425
4. Instant Messaging (I.M.)	37% 1234	35% 1174	18% 591	10% 333
5. Office productivity Tools (examples: Text Documents, Spreadsheets, Presentations, Databases)	3% 85	14% 471	32% 1088	51% 1713
6. Audio or Video players	28% 942	38% 1280	21% 692	13% 435
	15%	26%	22%	37%

7. Secure Remote Access / VPN	15% 498	20% 882	32% 1067	21% 902
8. Database Applications	10% 342	26% 872	31% 1037	33% 1097
9. Email / messaging	3% 88	8% 270	27% 903	62% 2091
10. Applications specific to your business (examples: construction applications, manufacturing applications, etc.)	22% 730	24% 792	23% 781	31% 1045
11. Internally Developed Applications	22% 736	26% 857	25% 830	28% 926

Which Linux Distributions are you considering or currently running on the desktop?

	Number of Responses	Response Ratio
Novell/SUSE Enterprise Linux (SLES/NLD)	946	28%
Open SUSE	1088	32%
Red Hat Enterprise Linux (REL)	642	19%
Fedora	880	26%
Mandriva	397	12%
Xandros	117	3%
Ubuntu	1765	53%
Debian	910	27%
Gentoo	345	10%
Asianux (Red Flag, Haansoft, Miracle Linux)	10	0%
Turbolinux	12	0%
Co-Create	4	0%
MontaVista	11	0%
Timesys	3	0%
Wind River	4	0%
Linspire	81	2%
Internally Developed Linux Distribution	70	2%
Other, Please Specify	509	15%

13. Rate the factors influencing your organization's decision to migrate to Linux on the Desktop?

The top percentage indicates total respondent ratio; the bottom number represents actual number of respondents selecting the option

	1 Not an inhibitor	2 Needs improvements	3 Severely inhibiting	N/A
1. Application support	23% 755	41% 1356	30% 991	6% 188
2. Browser support	68% 2227	18% 579	9% 300	6% 184
3. Browser Plug-in support	46% 1501	38% 1257	10% 322	6% 198
4. Cost to migrate	59% 1930	20% 671	14% 460	7% 219
5. Desktop management issues	41% 1346	38% 1232	16% 513	6% 185
6. End User training	29% 940	38% 1260	27% 896	6% 196

7. Technical Staff training	43% 1421	33% 1088	17% 555	6% 209
8. Hardware OEM support	32% 1042	42% 1371	21% 683	6% 181
9. Availability and quality of technical support from Linux vendors	50% 1636	31% 999	12% 392	8% 247
10. Licensing issues	71% 2328	13% 418	10% 313	7% 232
11. Peripheral support	25% 815	48% 1571	22% 726	5% 165
12. Other (can supply details in later questions)	31% 736	9% 201	9% 213	51% 1210

14. Will your computers be running multiple Operating Systems?

	Number of Responses	Response Ratio
No, running single boot only (one operating system per computer)	1934	57%
Dual boot / Multi-boot (two or more operating systems per computer)	1383	41%
Remote Access to different operating systems (examples: Citrix, LTSP, other terminal servers)	640	19%
Virtualized environments (example: Zen, VMWare, etc.)	711	21%
Other, Please Specify	62	2%

15. What are the top reasons your company chose to deploy Linux on the desktop? (Please rank at least the top three reasons)

The top percentage indicates total respondent ratio; the bottom number represents actual number of respondents selecting the option

	1	2	3	4	5	6	7	8	9	10	N/A
1. TCO (Total Cost of Ownership)	10% 216	7% 143	8% 156	5% 111	7% 141	7% 140	8% 157	11% 224	9% 177	12% 258	17% 342
2. Reduce License Costs	8% 177	9% 204	7% 150	6% 125	6% 126	6% 121	7% 157	10% 220	14% 306	13% 270	14% 296
3. Vendor Independence	6% 118	7% 133	10% 194	8% 155	7% 146	9% 173	10% 189	11% 218	8% 162	7% 142	16% 317
4. Manageability	3% 50	6% 98	8% 144	9% 160	11% 200	13% 229	13% 223	11% 186	8% 138	4% 69	15% 274
5. Security	7% 163	9% 213	7% 172	5% 120	5% 112	6% 139	8% 196	13% 303	14% 334	16% 377	9% 201
6. Source code availability (ability to customize)	7% 133	8% 144	9% 157	8% 153	11% 197	8% 149	7% 135	8% 150	8% 141	8% 139	17% 312
7. Corporate Direction	7% 106	10% 151	9% 142	8% 120	8% 118	6% 95	7% 102	6% 93	5% 72	5% 79	31% 475
8. My competitors have successfully deployed Linux	17% 241	9% 128	8% 113	4% 53	4% 51	3% 43	3% 39	3% 45	3% 44	4% 57	44% 634
9. Unhappy with existing desktop operating system	7% 161	7% 159	9% 191	8% 183	9% 187	7% 150	9% 194	8% 186	8% 180	15% 321	13% 288
10. Employees requesting Linux (user demand)	17% 331	9% 180	9% 167	7% 128	7% 142	6% 126	5% 97	6% 120	5% 98	9% 169	20% 386

16. What natural language support do you require for a Linux client? (select all that apply)

Number of Responses	Response Ratio
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Arabic (العربية)	101	3%
Bulgarian (Български)	33	1%
Bengali	25	1%
Brazilian Portuguese (Português do Brasil)	176	5%
Chinese - Simplified (简体中文)	210	6%
Chinese - Traditional (繁體中文)	137	4%
Czech (Čeština)	68	2%
Danish (Dansk)	87	3%
Dutch (Nederlands)	219	6%
German (Deutsch)	485	14%
Greek (Ελληνικά)	65	2%
English	2713	80%
Finnish (Suomi)	91	3%
French (Français)	419	12%
Georgian	19	1%
Hebrew (עברית)	73	2%
Hindi (हिंदी)	79	2%
Indonesian (Bahasa Indonesia)	42	1%
Italian (Italiano)	250	7%
Japanese (日本語)	171	5%
Korean (한국말)	92	3%
Malay (Bahasa Melayu)	37	1%
Marathi	23	1%
Norwegian	98	3%
Panjabi	29	1%
Polish (Polski)	105	3%
Portuguese (Português)	129	4%
Romanian (Româna)	91	3%
Russian (Русский)	143	4%
Spanish (Español)	417	12%
Swedish (Svenska)	176	5%
Tajik	14	0%
Tamil	35	1%
Telugu	20	1%
Thai (ไทย)	43	1%
Turkish (Türkçe)	50	1%
Ukrainian (Українська)	41	1%
Vietnamese (Tiếng Việt)	38	1%
Other, Please Specify	195	6%

In what geography in the global marketplace does your organization
17. conduct business? (Select all that apply)





	Number of Responses	Response Ratio
North America	1634	49%
Western Europe	1649	49%
Japan	388	12%
China	418	13%

Other Asia / Pacific		648	19%
South & Central America		539	16%
Middle East / Africa		431	13%
Eastern Europe		717	22%
Other, Please Specify		127	4%





What mobile device support is required to meet your business user's
18. needs? (Select all that apply)

		Number of Responses	Response Ratio
Digital Camera / Video		1625	49%
Mail and Messaging enabled Personal Digital Assistant (PDA)		1762	53%
Portable Music Device (example: iPOD)		577	17%
Smart Phone		1086	33%
Personal Storage Device		1503	45%
Not applicable (skip this question)		702	21%
Other, Please Specify		107	3%







How are system and application upgrades handled within your
19. organization? (Select all that apply)

		Number of Responses	Response Ratio
Upgrades handled by Technical Staff only		1937	58%
Upgrades handled by End Users only		431	13%
Upgrades handled by Technical Staff with End User interaction		1256	38%
Outsourced		122	4%
No controls on upgrades		206	6%
Other, Please Specify		55	2%

Which of the following are your end users allowed to install on their
20. desktop/clients themselves? (Select all that apply)






		Number of Responses	Response Ratio
Applications approved by Technical Staff		1442	43%
Browser plug-ins		954	29%
End users cannot install anything		848	25%
End users can install anything		1201	36%
Other, Please Specify		107	3%

What does your Linux desktop browser need to support? (Select all
21. that apply)

		Number of Responses	Response Ratio
Macromedia Flash		2808	86%
Shockwave		1839	56%
Adobe Acrobat Reader		2804	86%
Quicktime		1860	57%
Realplayer / Helix		1646	50%
Open Office		2385	73%

Online meeting client software		1331	41%
WMF - audio / video		1767	54%
Other, Please Specify		372	11%

22. Describe the phase of your Linux desktop/client deployment? (Select all that apply)

		Number of Responses	Response Ratio
Not planning to deploy Linux desktop/clients.		573	17%
A pilot Linux deployment is planned.		518	15%
Plan to initially deploy to a limited set of technical users.		495	15%
A proof of concept or pilot deployment is underway.		398	12%
Have already deployed Linux desktop/clients.		1690	50%
Other, Please Specify		130	4%

23. Please describe your experiences deploying Linux desktop/clients. (optional)

1255 Responses

Providing an email address is not required for this survey. However, if you provide an email address, the final results of the survey will be sent to you. Email addresses will not be publically published or publically shared. Email address:

2050 Responses



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