

## **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 envirnments, 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
- Ouicktime
- 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.



# **Survey Results**

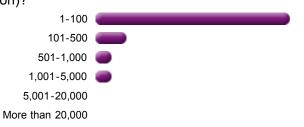


Report created on: Nov 20 2005 3:17PM

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

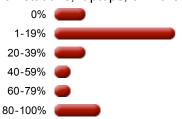
How many employees does your organization have that use computers (desktops, workstations, laptops, thin clients, fixed

**1.** function)?



	Responses	Ratio
	2179	65%
	480	14%
	164	5%
	287	9%
	144	4%
	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
408	12%
1470	44%
332	10%
305	9%
238	7%
621	18%
3374	100%

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

Number of Responses

Total

Response Ratio



<b>4.</b> What percentage of your de	esktop clie	ents are use	d for the fol	lowina purp	oses?	
The top percentage indicates total respondent ratio; the bottom number represents actual number of respondents selecting the option	1	2	3	4	5	6
	0%	1-20%	21-40%	41-60%	61-80%	81-100%
1. <b>Fixed Function</b> (examples: point-of-sale, kiosk terminals, factory floor terminal, etc.)	59%	30%	5%	2%	2%	2%
	1979	1029	162	77	70	57
2. <b>Transactional Desktop</b> (examples: travel agent desktop, help desk desktop, bank teller, telemarketer desktop, etc.)	58%	28%	7%	4%	2%	2%
	1946	951	222	135	61	59
3. <b>Technical Workstation</b> (examples: engineering design or CAD/CAM workstation, animated graphics, visualization, software development, or EDA, etc.)	18%	31%	16%	13%	11%	10%
	620	1060	544	446	381	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%	28%	20%	15%	13%	14%
	358	943	662	504	445	462
5. <b>General Purpose Desktop</b> (examples: small office or home office use, non-technical end user, student, casual email user, etc.)	15%	26%	14%	12%	13%	21%
	500	871	458	396	453	696

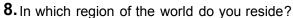
<b>5.</b> What is your job withi	in your company or organization?		Number of Responses	Response Ratio
Engineering Manager			116	3%
Software Developer / Systems Integrator / Consultant			1030	31%
Service Manager			42	1%
IT Managers / IS Manager / MIS Manager / Data Center Manager	_		477	14%
IT / IS / 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%	8%	9%	17%	27%	35%	2%
	75	277	298	574	914	1167	51
2. Laptops / portables	10%	51%	17%	12%	4%	5%	1%
	333	1670	555	385	145	166	21
3. Thin Clients & Terminals	71%	20%	3%	2%	1%	2%	1%
	2085	596	82	55	42	47	40
4. Kiosks	85%	12%	1%	1%	0%	0%	2%
	2476	339	18	16	2	11	45
5. Engineering Workstations	47%	31%	9%	5%	3%	4%	2%
	1430	923	276	140	100	106	47
6. Mobile / Handhelds	54%	37%	4%	2%	1%	1%	2%
	1620	1122	113	46	22	27	53

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



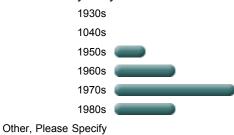


	Number of Responses	Response Ratio
	1260	37%
	184	5%
	153	5%
	54	2%
	33	1%
	20	1%
	153	5%
	1468	44%
	49	1%
Total	3374	100%

9. In what country do you reside?

3182 Responses

<b>10.</b> What was the	year you were	born?
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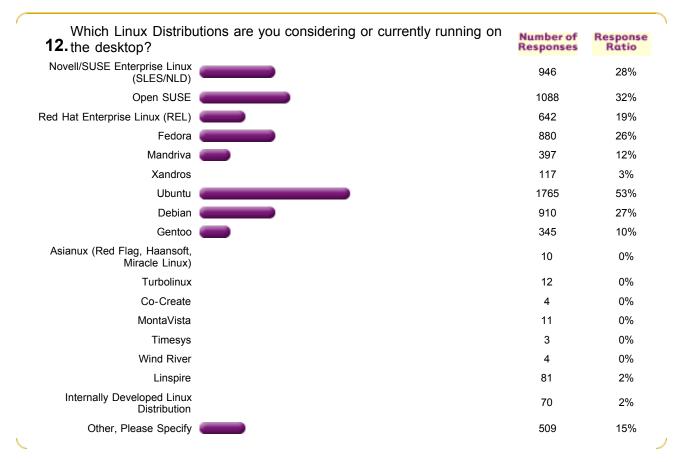


	Responses	Ratio
	13	0%
	98	3%
	378	11%
	718	21%
	1356	40%
	756	22%
	55	2%
Total	3374	100%

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

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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%	15%	32%	50%
	125	492	1075	1663
2. Developer Tools (editors, compilers, development envirnments, etc.)	17%	25%	26%	32%
	559	850	872	1068
3. Personal Information Manager (PIM)	25%	38%	24%	13%
	829	1267	814	425
4. Instant Messaging (I.M.)	37%	35%	18%	10%
	1234	1174	591	333
5. Office productivity Tools (examples: Text Documents, Spreadsheets, Presentations, Databases)	3%	14%	32%	51%
	85	471	1088	1713
6. Audio or Video players	28%	38%	21%	13%
	942	1280	692	435
	450/	260/	220/	270/

7. Secure Remote Access / VPN	15%	∠070	3∠%	∠1 70
	498	882	1067	902
8. Database Applications	10%	26%	31%	33%
	342	872	1037	1097
9. Email / messaging	3%	8%	27%	62%
	88	270	903	2091
10. Applications specific to your business (examples: construction applications, manufacturing applications, etc.)	22%	24%	23%	31%
	730	792	781	1045
11. Internally Developed Applications	22%	26%	25%	28%
	736	857	830	926



## 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%	41%	30%	6%
	755	1356	991	188
2. Browser support	68%	18%	9%	6%
	2227	579	300	184
3. Browser Plug-in support	46%	38%	10%	6%
	1501	1257	322	198
4. Cost to migrate	59%	20%	14%	7%
	1930	671	460	219
5. Desktop management issues	41%	38%	16%	6%
	1346	1232	513	185
6. End User training	29%	38%	27%	6%
	940	1260	896	196

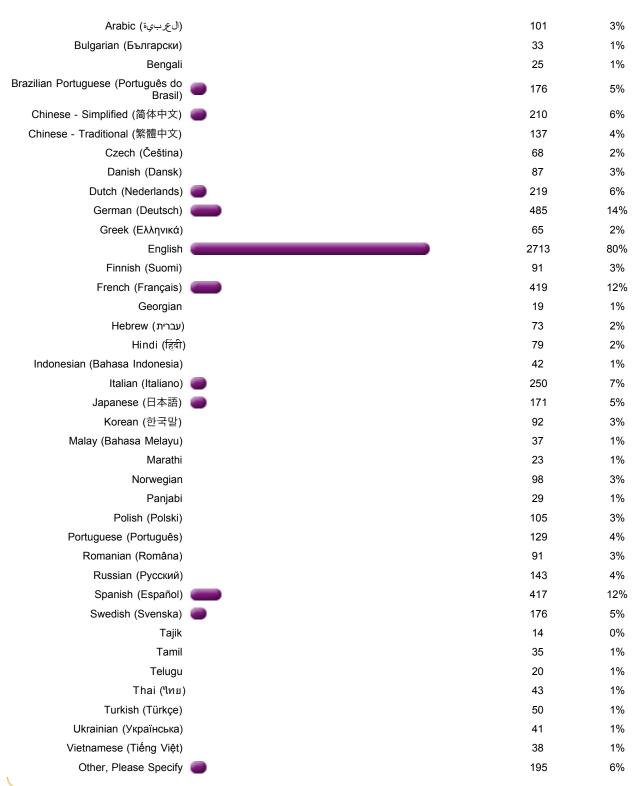
7. Technical Staff training	43%	33%	17%	6%
	1421	1088	555	209
8. Hardware OEM support	32%	42%	21%	6%
	1042	1371	683	181
Availability and quality of technical support from Linux vendors	50%	31%	12%	8%
	1636	999	392	247
10. Licensing issues	71%	13%	10%	7%
	2328	418	313	232
11. Peripheral support	25%	48%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

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

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

Number of Responses Response Ratio

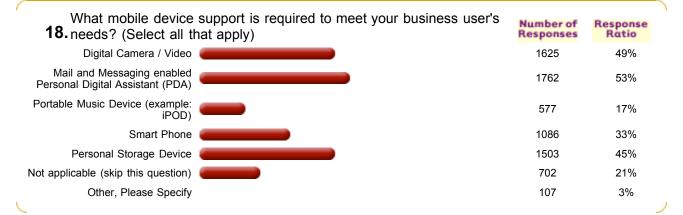


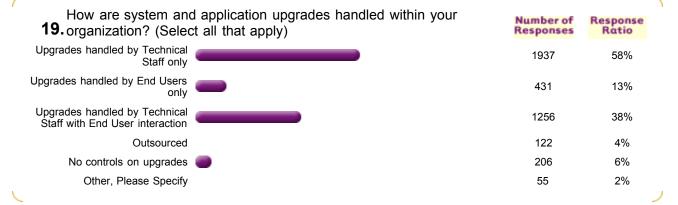
In what geography in the global marketplace does your organization <b>17.</b> conduct business? (Select all that apply)	Nur Res
North America	
Western Furone	

Responses	Ratio
1634	49%
1649	49%
388	12%
418	13%

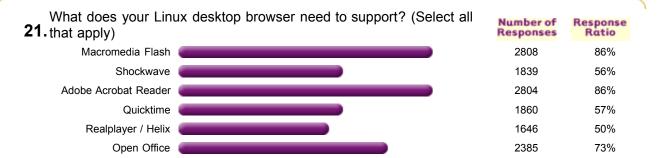
Japan China







Which of the following are your end users allowed to install on their <b>20.</b> 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%	



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

Describe the phase <b>22.</b> all that apply)	of your Linux desktop/client deployment? (Select	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 **24.** publically published or publically shared. Email address:

2050 Responses



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