# 2006 Desktop Linux Client Survey: Analysis

*OSDL DESKTOP LINUX WORKING GROUP*

## Introduction: 2006 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, the DTL launched the first OSDL Desktop Linux Client survey. This year, the 2006 OSDL Linux Client Survey was launched during the month of November and received over 2500 responses. The goals of the survey were to determine the key factors driving Linux on the desktop, to identify major barriers to Linux desktop adoption, and to identify any trends that may surface since the last survey last year.

## Discussion Points

- The application environment for Linux desktops
- Peripheral support that is critical to Linux deployments
- Factors which are driving decisions to deploy Linux on the desktop
- Areas of focus for the Linux desktop community in 2007

## The application environment for Linux desktops

The following barriers for deploying Linux desktops are (listed in order):

- Application availability
- Quality of peripheral support
- End user training
- Desktop management issues

We found that the top barrier (application availability) was by far the most critical to Linux desktop adoption. An analysis of the free form responses to factors that were putting the deployment of Linux on hold also showed the lack of applications for the

Linux desktop leading the way. It is not that applications don't exist for the Linux desktop, but users grow accustomed to certain applications that they just can't live without. The application list is pretty similar to the list that was compiled from the survey in 2005. Leading the way were:

- Microsoft Office
- Adobe photoshop
- AutoCAD and other Windows-based CAD/CAM applications
- MS Project
- Visio
- Quickbooks

Other applications or capabilities that surfaced this time around were MS exchange compatibility, VPN (i.e. Activcard support), online meeting client software, smartphone synchronization of calendar and address book, Dreamweaver, and of course, games. Custom applications which are industry specific are almost always written for Windows without Linux ports or equivalent applications.

Applications which appeared on the critical list in 2005, but not in 2006 were email and messaging applications as well as browser and database applications.

## Peripheral support that is critical to Linux deployments

The quality of peripheral support was listed right behind application availability in the list of barriers to Linux desktop deployments. The following peripheral device support was required to meet business needs (listed in order):

- Printers
- Personal storage devices (i.e. USB memory)
- Scanners
- Digital cameras
- Mail and messaging devices
- Web cam / video
- Smartphones

It is interesting to note that if we combined mobile communication devices, which are really turning into the smartphones of 2007, the combination of PDA devices, smartphones, tablets,  and GPS devices would have easily topped the list of business devices.

Survey responders indicated that printing has gotten significantly better in 2006. However, it is still difficult to buy a printer at your local electronics store and expect it to work out of the box on a Linux machine.  While most printers are supported on Linux, there is still a lag from the time when a printer hits the market to when the driver driver is available and automatically installed on your computer by a commercial distro update.

## Factors which are driving decisions to deploy Linux on the desktop

Applications, applications, applications.

## Areas of focus for the Linux desktop community in 2007

Survey respondents were asked to send a message to the Linux desktop community. The focus areas that they requested were (in order of priority):

- Open source drivers
- Wireless
- Linux desktop standards
- Printing
- Audio/multimedia

Open source drivers have been an issue for Linux desktops for a long time.  The hard technical problems have been solved.  The main factors holding back open source drivers are related to the size of the Linux market and protection of intellectual property.

The wireless community has made huge strides in 2006 in supporting more wireless chip sets and more capabilities in the wireless software stack.  Wireless support will always be in demand and will enable portable desktops (laptops) and mobile devices (smart phones).

When respondents say that Linux desktop standards are important, they are really saying that applications must be able to run across distributions and must be compatible with older release of these distributions. Application vendors cannot afford to develop, distribute, and support applications across a fragmented Linux market.

Printing on a Linux desktop has made significant advancements in the number and types of printers that are supported. The desktop printing summits organized by the OSDL drew 40 people representing everybody from major hardware vendors and Linux distributors to consultants and standards organizations. This printing community is continuing to develop support for more printers and in standardizing methods for installing printers.

Desktop architects at the third Desktop Architects Meeting (DAM) in December identified audio on Linux to be a critical focus area and the community is organizing to help application vendors understand which audio interfaces to use. While audio can be made to work on a Linux desktop, problems with proprietary CODECs, audio configuration, and problems with multiple applications accessing a single audio device are being addressed by the desktop community. Look for some significant announcements early in 2007 which will address the use of proprietary CODECs.

## Conclusion

Linux on the desktop grew and matured in 2006. While some analysts reported a stall in Linux penetration on the desktop in 2006, a number of significant milestones were reached that promise to continue to move the Linux desktop ahead in 2007. The most important changes to desktop Linux were all of the ‘under the hood’ incremental improvements that took place around printing, plug-and-play support, laptop enablement and the arrival of the compositing manager that allows for modern graphics.”

| 1. How many end user desktop/clients does your organization have? | | |
|---|---|---|
| None | 116 | 4% |
| 1 - 100 | 1692 | 63% |
| 101 - 500 | 348 | 13% |
| 501 - 1,000 | 107 | 4% |
| 1,001 - 5,000 | 175 | 7% |
| 5,001 - 20,000 | 97 | 4% |
| More than 20,000 | 139 | 5% |
| **Total** | 2674 | 100% |

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

| Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option. | None | 1-24% | 25-49% | 50-74% | 75-100% |
|---|---|---|---|---|---|
| Laptops | 206<br>9% | 1184<br>51% | 444<br>19% | 309<br>13% | 158<br>7% |
| Desktop / workstations | 97<br>4% | 339<br>14% | 413<br>17% | 799<br>32% | 854<br>34% |
| Thin Clients / Terminals | 841<br>61% | 403<br>29% | 66<br>5% | 24<br>2% | 34<br>2% |
| Kiosks / Fixed function | 967<br>76% | 272<br>21% | 19<br>1% | 7<br>1% | 6<br>0% |
| Handheld devices | 644<br>43% | 729<br>49% | 73<br>5% | 28<br>2% | 12<br>1% |

| 3. What is your job within your company or organization? | | |
|---|---|---|
| Engineering Manager | 113 | 4% |
| Software Developer | 537 | 20% |
| Systems Integrator | 165 | 6% |
| Consultant | 186 | 7% |
| Service Manager | 36 | 1% |
| IT Managers / IS Manager / MIS Manager / Data Center Manager | 370 | 14% |
| IT / IS / MIS Director | 96 | 4% |
| IT Executive (VP, Executive VP, CTO / CIO / Chief Architect) | 150 | 6% |
| Managing Director / General Manager | 140 | 5% |
| Industry Analyst | 10 | 0% |
| Marketing / Strategy / Accounting / Financial | 68 | 3% |
| Program Manager / Project Manager / System Manager | 147 | 5% |
| Manufacturing / Assembly | 15 | 1% |
| Student | 314 | 12% |
| Other | 327 | 12% |
| **Total** | 2674 | 100% |

| 4. What is the principle business activity at your company or location? (select one only) | | |
|---|---|---|
| Agriculture, Forestry, and Fishing | 16 | 1% |
| Architecture / Construction / Real Estate | 29 | 3% |
| Computer Networking and Telecommunications Industry | 167 | 16% |
| Consulting (Independent) | 93 | 9% |
| Education | 143 | 13% |
| Entertainment / Recreation / Tourism | 20 | 2% |
| Finance / Banking / Accounting | 37 | 3% |
| Government (Federal, military) | 24 | 2% |
| Government (State, local, regional) | 29 | 3% |
| Healthcare services / Medical / Pharmaceutical / Biotech | 43 | 4% |
| Hotel / Food service / Hospitality | 4 | 0% |
| Insurance / Legal | 21 | 2% |
| Manufacturing (computer / OEM / communications / software) | 73 | 7% |
| Manufacturing (other than computer / communications) | 47 | 4% |
| Media / TV / Cable / Print / Radio / Advertising / Communications | 74 | 7% |
| Mining / Materials / Construction | 9 | 1% |
| Non-profit / Religious | 40 | 4% |
| Reseller / VAR / VAD / Integrator / Distributor (computer) | 27 | 3% |
| Retail / Wholesale / Distribution / Trade | 46 | 4% |
| Transportation | 8 | 1% |
| Utilities / Energy | 18 | 2% |
| Other, Please Specify<br>View Responses | 108 | 10% |
| **Total** | 1076 | 100% |

| 5. In which region of the world do you reside? | | |
|---|---|---|
| North America | 1048 | 40% |
| South America | 76 | 3% |
| Central America / Carribean | 35 | 1% |
| Asia | 212 | 8% |
| Africa | 30 | 1% |
| Middle East | 20 | 1% |
| India | 42 | 2% |
| Australia / New Zealand | 125 | 5% |
| Europe | 1003 | 38% |
| Other, Please Specify<br>View Responses | 15 | 1% |
| **Total** | 2606 | 100% |

| 6. Which Linux Distributions is your organization running on the desktop? | | |
|---|---|---|
| Novell/SUSE Enterprise Desktop Linux (SLED) | 416 | 16% |
| OpenSUSE / SUSE Pro | 624 | 24% |
| Red Hat Enterprise Linux (RHEL) | 428 | 16% |
| Fedora | 606 | 23% |
| Mandriva | 153 | 6% |
| Xandros | 44 | 2% |
| Ubuntu | 1280 | 49% |
| Debian | 445 | 17% |
| Gentoo | 246 | 9% |
| Asianux (Red Flag, Haansoft, Miracle Linux) | 42 | 2% |
| Turbolinux | 14 | 1% |
| Co-Create | 18 | 1% |
| Linspire | 28 | 1% |
| Freespire | 25 | 1% |
| Knoppix | 130 | 5% |
| Slackware | 96 | 4% |
| Internally Developed Linux Distribution | 49 | 2% |
| Other, Please Specify<br>View Responses | 390 | 15% |

| 7. What peripheral device support is required to meet your business needs? (Select all that apply) | | |
|---|---|---|
| Digital Camera | 1474 | 57% |
| Web cam / video | 1055 | 40% |
| Mail and Messaging enabled Personal Digital Assistant (PDA) | 1223 | 47% |
| Portable Music Player (e.g. iPod) | 761 | 29% |
| Smart Phone | 793 | 30% |
| Personal Storage Device / USB memory | 2043 | 78% |
| Finger print reader | 388 | 15% |
| Scanner | 1629 | 63% |
| Printer | 2242 | 86% |
| GPS (Global Positioning System) | 351 | 13% |
| Tablets | 457 | 18% |
| Other, Please Specify<br>View Responses | 247 | 9% |

| 8. Describe the phase of your Linux desktop / Linux client deployment? (Select all that apply) | | |
|---|---|---|
| Not planning to deploy Linux desktop/clients. | 444 | 17% |
| A pilot Linux deployment is planned. | 274 | 11% |
| Plan to initially deploy to a limited set of technical users. | 292 | 11% |
| A pilot deployment is underway. | 232 | 9% |
| Have already deployed Linux desktop/clients. | 1378 | 53% |
| Deployment on hold until needed applications or capabilities are available | 255 | 10% |
| Other, Please Specify<br>View Responses | 85 | 3% |

| 10. How important are the following factors in your company's decision to deploy (or not deploy) Linux on the desktop? | | | |
|---|---|---|---|
| Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option. | Significant | Consideration | Not a factor |
| TCO (Total Cost of Ownership) | 1441<br>55% | 814<br>31% | 351<br>13% |
| Reduce License Costs | 1612<br>62% | 689<br>26% | 305<br>12% |
| Vendor Independence | 1206<br>46% | 887<br>34% | 513<br>20% |
| Manageability | 1529<br>59% | 819<br>31% | 258<br>10% |
| Security | 1851<br>71% | 582<br>22% | 173<br>7% |
| Source code availability (ability to customize) | 771<br>30% | 968<br>37% | 867<br>33% |
| Corporate Direction | 738<br>28% | 853<br>33% | 1014<br>39% |
| My competitors have successfully deployed Linux | 225<br>9% | 465<br>18% | 1915<br>74% |
| Unhappy with existing desktop operating system | 1030<br>40% | 960<br>37% | 616<br>24% |
| Employees requesting Linux (user demand) | 726<br>28% | 944<br>36% | 936<br>36% |

| 11. How important are the following potential barriers to your organization's decision to migrate to Linux on the Desktop? | | | |
|---|---|---|---|
| Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option. | Major obstacle | An issue for some users | Not a concern |
| Application support | 1451<br>56% | 921<br>35% | 231<br>9% |
| Browser support | 444<br>17% | 750<br>29% | 1412<br>54% |
| Cost to migrate | 488<br>19% | 799<br>31% | 1319<br>51% |
| Desktop management issues | 624<br>24% | 1081<br>41% | 901<br>35% |
| End User training | 850<br>33% | 1174<br>45% | 582<br>22% |
| Technical Staff training | 558<br>21% | 1051<br>40% | 997<br>38% |
| Availability of pre-installed Linux desktops | 405<br>16% | 722<br>28% | 1479<br>57% |
| Availability and quality of technical support from Linux vendors | 478<br>18% | 972<br>37% | 1156<br>44% |
| Licensing issues | 316<br>12% | 630<br>24% | 1660<br>64% |
| Quality of peripheral support | 1278<br>49% | 1027<br>39% | 301<br>12% |
| Other (can supply details in later questions) | 220<br>8% | 566<br>22% | 1819<br>70% |

| 12. Where should the Linux desktop community focus their efforts in 2007? | | | | |
|---|---|---|---|---|
| Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option. | Top priority | Important | Good to have | Lower priority |
| Audio / Multimedia | 969<br>36% | 937<br>35% | 611<br>23% | 157<br>6% |
| Printing | 982<br>37% | 1079<br>40% | 489<br>18% | 124<br>5% |
| Wireless | 1232<br>46% | 920<br>34% | 381<br>14% | 141<br>5% |
| Power management | 553<br>21% | 874<br>33% | 897<br>34% | 350<br>13% |
| Open source drivers | 1504<br>56% | 719<br>27% | 354<br>13% | 97<br>4% |
| Linux desktop standards (cross-distro) | 1373<br>51% | 764<br>29% | 430<br>16% | 107<br>4% |
| Fonts and document fidelity | 826<br>31% | 991<br>37% | 676<br>25% | 181<br>7% |
| Application packaging | 952<br>36% | 923<br>35% | 593<br>22% | 206<br>8% |
| Cross-desktop environment tools, services, and interfaces | 959<br>36% | 938<br>35% | 626<br>23% | 151<br>6% |
| Developer documentation | 409<br>15% | 906<br>34% | 1053<br>39% | 306<br>11% |
| Development tools | 589<br>22% | 929<br>35% | 860<br>32% | 295<br>11% |
| Accelerated graphics | 1002<br>37% | 841<br>31% | 643<br>24% | 188<br>7% |

| 13. What are your plans for running Windows applications on a Linux desktop? (Select all that apply) | | |
|---|---|---|
| Use virtualization and run native Windows applications | 1174 | 44% |
| Use a compatibility layer (e.g. Wine) to run Windows applications on Linux | 1178 | 44% |
| Use equivalent Linux applications and avoid Windows applications | 1770 | 66% |
| Use browser-based applications which are platform independent | 1112 | 42% |
| No plans to run Windows applications | 387 | 14% |
| Other, please specify<br>View Responses | 192 | 7% |