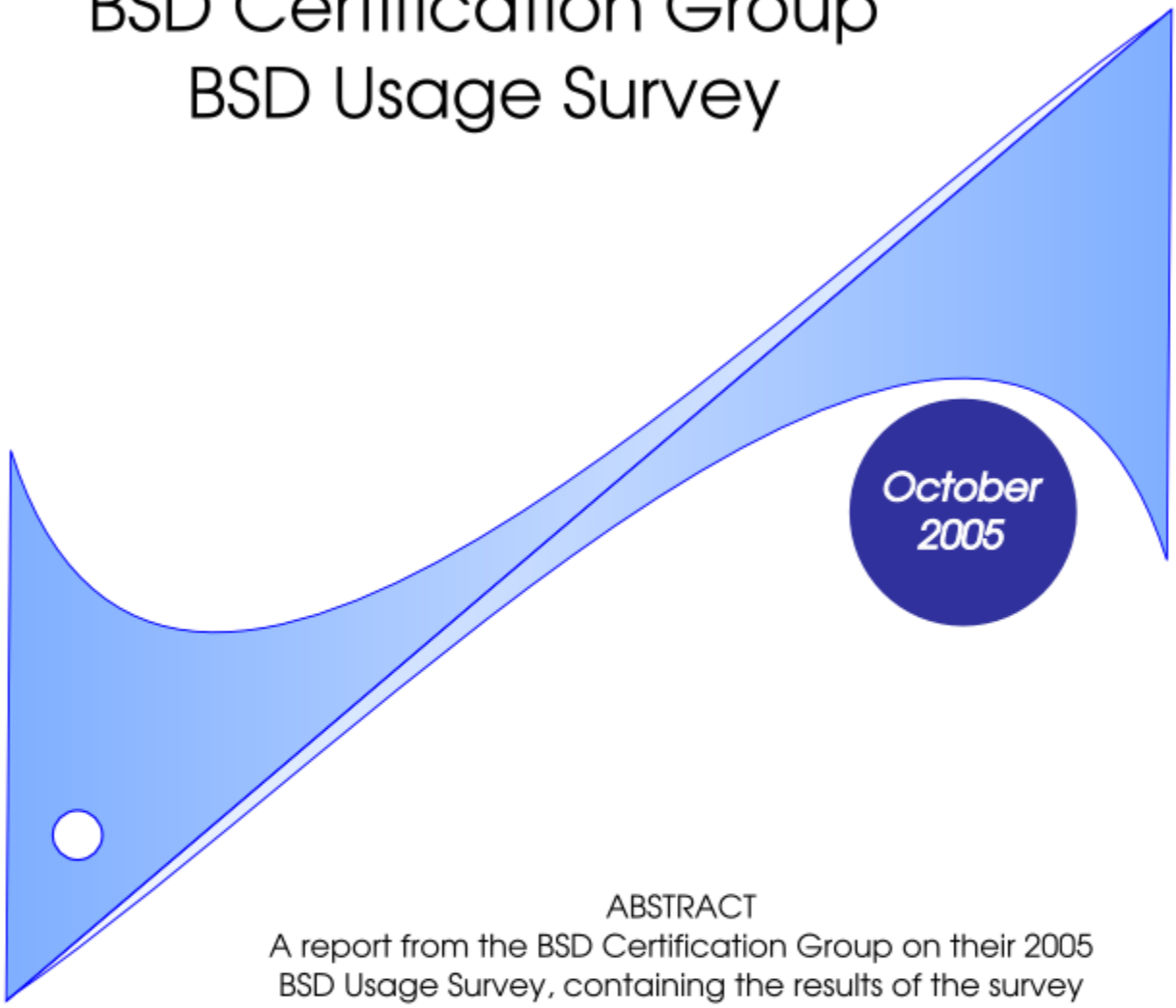
BSD Certification Group
BSD Usage Survey



ABSTRACT

A report from the BSD Certification Group on their 2005 BSD Usage Survey, containing the results of the survey as well as comments regarding global BSD usage.

Cover design by Michael Welsh

Preface

The BSD Usage Survey, available between September 12 through September 30, 2005 from the BSD Certification Group (BSDCG), was the first global survey to gather statistics on how and where BSD systems are used. The BSD Certification Group would like to thank those who offered suggestions during the creation of the survey, those who translated the survey into other languages, those who announced the survey to interested forums, and those who completed the survey. Your assistance and insights have provided a valuable tool for advocating and marketing the use of BSD systems.

The BSD Certification Group

www.bsdcertification.org

October 31, 2005

Table of Contents

Executive Summary

This report contains the results and a brief analysis of the BSD Usage Survey--the first publicly available survey designed to measure where and how BSD systems are used.

The BSD Usage Survey ran from September 12 to September 30, 2005. Well over 4000 responders in 6 different languages indicated BSD systems are being used in nearly 100 countries across the globe. Section 2, "**Survey Results**", contains the results to the survey's 18 questions--including how many BSD systems were in use at a company or organization, how many administrators were required in the administration of the BSD systems, whether the systems were being used as servers or desktops, and which particular applications or services were running on these systems.

Section 3, "**Comments**", contains many interesting insights on how responders feel about their BSD systems, including why they choose to use or not use BSD systems. Many responders took the time to explain their particular network setup and how BSD systems fit into their organization's computing infrastructure.

The BSD Usage Survey was released by the BSD Certification Group (BSDCG) to gather usage information to include in the BSD Certification Group's business plan. A copy of that business plan and this report are available at the BSD Certification Group's website.

The BSD Certification Group encourages any individual or organization who uses or advocates BSD systems to use the survey data in their own material, providing they credit the BSD Certification Group as the originating source of the data. Suggestions for future BSD usage surveys are also welcome and can be submitted using the contact form at the BSD Certification Group's website.

1 Introduction

The BSD Certification Group (BSDCG), formed in January 2005 to create a certification standard for BSD system administration, launched a BSD Usage Survey in September 2005 to gather statistics for the Group's business plan. The results from the survey, summarized in this report, are also of use to any individual or organization interested in BSD system usage across the globe.

The survey was available in 6 languages and ran from September 12 to September 30, 2005. The results from the survey are the focus of the remainder of this report.

Section 2, "**Survey Results**", contains the results to the survey's 18 questions which included how many BSD systems were in use at a company or organization, how many administrators were required in their administration, whether the systems were being used as servers or desktops, and which particular applications or services were running on these systems.

Section 3, "**Comments**", contains many interesting insights on how responders feel about their BSD systems, including why they choose to use or not use BSD systems. Many responders took the time to explain their particular network setup and how BSD systems fit into their organization's computing infrastructure.

1.1 Results and Validity

Neither the survey itself nor this report pretend to be an exhaustive or completely accurate analysis of the BSD community or global BSD usage. A great deal of effort on the part of many individuals went into the creation, collection, and analysis of the survey results. Even so, the BSD Certification Group makes no claim on the accuracy of the results or how these results are interpreted by the wider computing community.

When using and interpreting the survey results, please bear these points in mind:

- No attempt was made to control who completed the survey or to ensure the survey was equally distributed throughout the globe for each translated version of the survey. The existence of the survey was advertised via email to the various BSD projects' advocacy mailing lists, the bsdcert discuss mailing list, BSD related news sites and forums, the NYCBSDCon conference, and word of mouth. This means that there was no control

group or pre-screening of responders. It also means that it is likely that those who responded are either within the BSD community or were told of the survey by someone within the BSD community.

- The total percentage of those who took the English version of the survey compared to those who took a translated version of the survey does not necessarily reflect lack of BSD usage amongst non-native English speakers. It may well be a reflection of fewer forums and mailing lists being available in other languages.

- Since there wasn't a pre-screening process, one needs to assume that each responder took the survey seriously. A total of seven (7) entries were removed from the survey analysis as they appeared to be spurious either from the nature of the comments or by the responder choosing every possible answer from the questions that allowed multiple responses.

- One also needs to assume that the responder was capable of answering accurately on behalf of their company or organization. Many reponders clarified their responses or explained their estimations in their comments. Readers of this report are encouraged to read both Sections 2 and 3 of the report.

1.2 Results and Certification Efforts

The results from the BSD Usage Survey clearly indicate that BSD systems are being used throughout the world in both small and large installations. Most of these systems are acting as servers, which supports a need to quantify BSD server administration skills. Many of the applications and services running on these servers match the system administrative tasks which were measured in the Task Analysis Survey Report published in July of 2005 by the BSD Certification Group.

The survey also asked responders how they gained their current BSD system administration skills. Their answers, charted in Section 2.8, indicate a clear need for BSD-related curriculum in both IT training centers and university and college programs. The BSD Certification Group welcomes input from both instructors and curriculum developers--please see the Contact Us page on the BSD Certification Group's website for contact information.

2 Survey Results

The survey was available in the following languages:

- Brazilian Portuguese
- English
- European Portuguese
- German
- Italian
- Polish

A total of **4330** responders completed the survey. Table 2-1 breaks down the number of responders per translated survey.

Table 2-1: Number of Responders

Language	***Number of Responders***
Brazilian Portuguese	66
English	3958
European Portuguese	62
German	61
Italian	55
Polish	128
Total:	**4330**

2.1 Question 1: Which BSD Systems

Question 1 sought to determine which of the four major BSD projects were most commonly used. Figure 2.1 shows the merged results from all of the translated surveys.

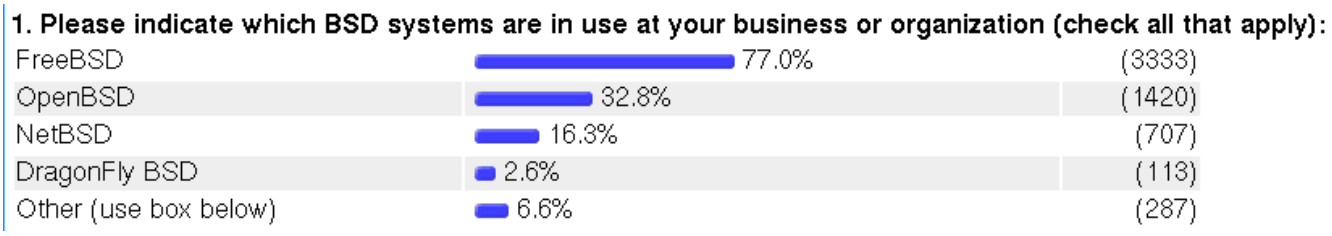


Figure 2.1: Which BSD Systems

Table 2-2 shows the results for the same question by each translated version of the survey. Since this was a "choose all that apply" question, each row will add up to more than 100%.

Answer key for Table 2-2

A FreeBSD
B OpenBSD
C NetBSD
D Dragonfly BSD
E Other

Table 2-2: BSD Systems in Use

Language	A	B	C	D	E
Brazilian Portuguese	98.5%	24.2%	0.0%	1.5%	6.1%
English	76.3%	33.0%	16.7%	2.6%	6.7%
European Portuguese	72.6%	45.2%	14.5%	1.6%	6.5%
German	80.3%	31.1%	27.9%	4.9%	9.8%
Italian	70.9%	36.4%	10.9%	5.5%	7.3%
Polish	89.1%	25.0%	10.9%	3.1%	2.3%
Average:	**77.0%**	**32.8%**	**16.3%**	**2.6%**	**6.6%**

Note: In this report, the "average" *row* displays the average of all responders from all the translated surveys. The "language" rows reflect the responders for the specified survey. Since the majority of responders completed the English version of the survey, the "average" row will be similar to the "English" row. Noticeable differences in values within a "language" row may indicate a regional or language difference.

2.2 Question 2: Other BSD Systems

Question 2 asked responders to type in the name of "Other" BSDs referenced in Question 1. It should be noted that responders included operating systems that some may not consider to be BSD. This may be a reflection that the operating system contains, or is rumored to contain, BSD code. Where applicable, a hyperlink has been included to the website of the specified operating system.

Answer key for Table 2-3

A Brazilian Portuguese
B English
C European Portuguese
D German
E Italian
F Polish

Table 2-3: Other BSD Systems

Operating System	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
BSDi (BSD/OS)		12					**12**
BummiOS				1			**1**
ClosedBSD		1					**1**
Darwin		41	1		1		**43**
DesktopBSD		13					**13**
FreeSBIE		14	2			1	**17**
Frenzy		2					**2**
HBSD	2						**2**
IPSO		2		1			**3**
JUNOS		2					**2**

Operating System	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
LiveBSD		1					**1**
m0n0wall		35	2				**37**
Mac OS X		130		1	1		**132**
MicroBSD		1					**1**
MOS		1					**1**
MirOS		1					**1**
Nextstep		2					**2**
Openstep		1					**1**
PC-BSD		35	1	2	2	2	**42**
pfSense	2	6		1			**9**
QNX		1					**1**
S-Core		1					**1**
SecureOS		1					**1**
Solaris		5					**5**
TrustedBSD		3					**3**

2.3 Question 3: Managed Internally, Externally or Both

Question 3 sought to understand how systems are currently administered:

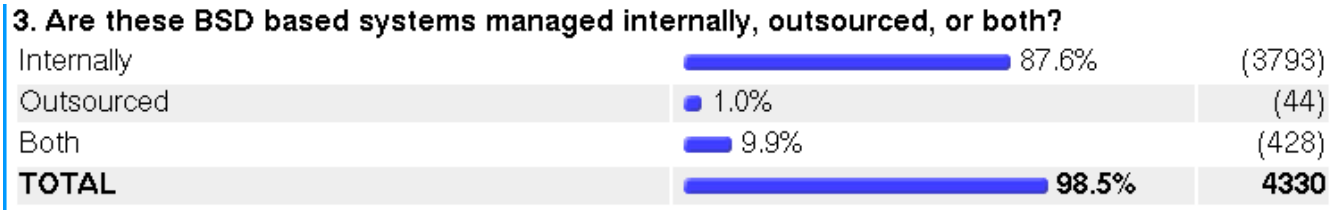


Figure 2.2: Managed Internally, Externally, or Both

Per translation results for Question 3 are contained in Table 2-4:

Table 2-4: How BSD Systems are Managed

Language	Internally	Outsourced	Both
Brazilian Portuguese	77.3%	4.5%	16.7%
English	90.4%	0.8%	7.3%
European Portuguese	54.8%	6.5%	35.5%
German	86.9%	0.0%	9.8%
Italian	80.0%	3.6%	16.4%
Polish	26.6%	1.6%	71.9%
Average:	**87.6%**	**1.0%**	**9.9%**

2.4 Question 4: How Many BSD Systems

Question 4 focused on the number of systems in use in the organization or business.

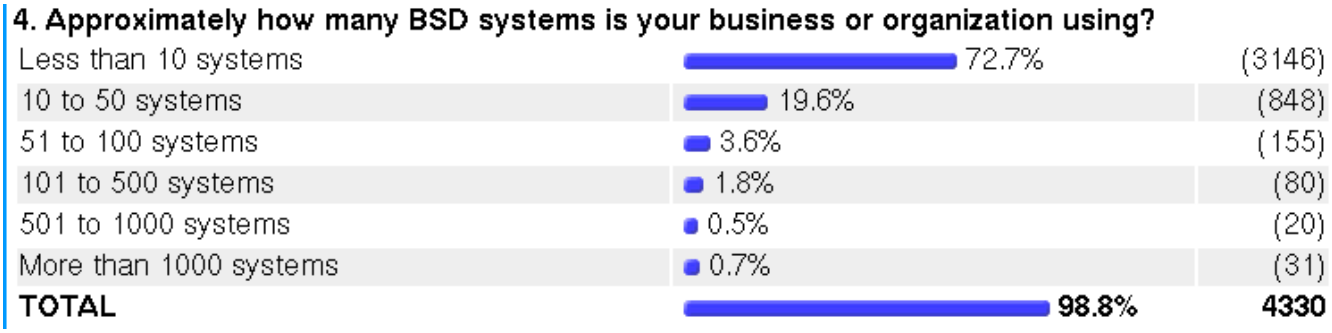


Figure 2.3: How Many BSD Systems

Answer key for Table 2-5:

A Less than 10 systems
B 10 to 50 systems
C 51 to 100 systems
D 101 to 500 systems
E 501 to 1000 systems
F More than 1000 systems

Table 2-5: Number of BSD Systems

Language	A	B	C	D	E	F
Brazilian Portuguese	43.9%	42.4%	6.1%	3.0%	3.0%	-
English	73.0%	19.3%	3.6%	1.9%	0.5%	0.7%
European Portuguese	59.7%	25.8%	4.8%	1.6%	0.0%	3.2%
German	83.6%	6.6%	3.3%	3.3%	-	-
Italian	72.7%	21.8%	3.6%	-	-	-
Polish	76.6%	20.3%	2.3%	0.8%	-	-
Average:	**72.7%**	**19.6%**	**3.6%**	**1.8%**	**0.5%**	**0.7%**

While this question doesn't provide an exact number of systems available to the 4330 responders, it is possible to determine a range of systems in use:

The minimum range can be calculated as:

(1*3146)+(10*848)+(51*155)+(101*80)+(501*20)+(1001*31) = **68,662**

and the calculation for the maximum range:

(9*3146)+(50*848)+(100*155)+(500*80)+(1001*20)+(1001*31) = **177, 265**

2.5 Question 5: What Percentage of Servers Are BSD

Question 5 sought to determine the percentage of all servers based on BSD throughout the organization or business.

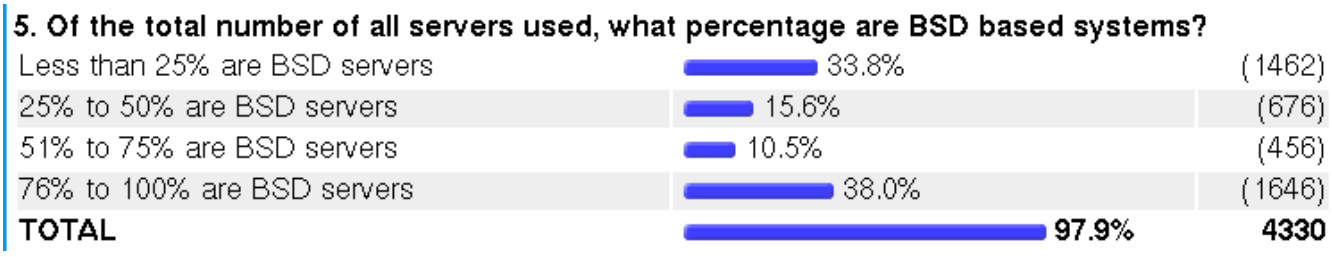


Figure 2.4: What Percentage of Servers Are BSD

Answer key for Table 2-6:

A Less than 25% are BSD servers
B 25% to 50% are BSD servers
C 51% to 75% are BSD servers
D 76% to 100% are BSD servers

Table 2-6: Percentage of BSD Servers

Language	A	B	C	D
Brazilian Portuguese	22.7%	12.1%	22.7%	40.9%
English	34.1%	15.8%	10.3%	37.9%
European Portuguese	32.3%	22.6%	12.9%	24.2%
German	13.1%	13.1%	13.1%	50.8%
Italian	41.8%	12.7%	12.7%	30.9%
Polish	36.7%	11.7%	7.8%	43.8%
Average:	**33.8%**	**15.6%**	**10.5%**	**38.0%**

2.6 Question 6: What Percentage of Desktops are BSD

BSD on the desktop was the focus of Question 6. It is interesting to note that BSD is starting to make some inroads into the Desktop market and that each language was consistent with the exception of German.

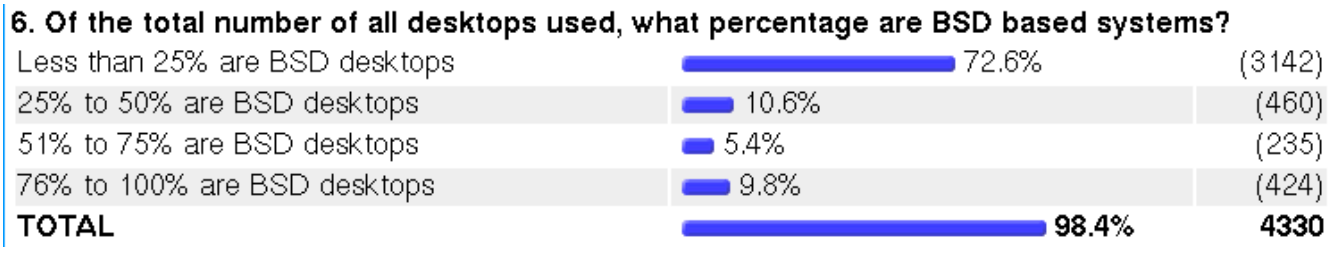


Figure 2.5: What Percentage of Desktops Are BSD

Answer key for Table 2-7:

A Less than 25% are BSD desktops
B 25% to 50% are BSD desktops
C 51% to 75% are BSD desktops
D 76% to 100% are BSD desktops

Table 2-7: Percentage of BSD Desktops

Language	A	B	C	D
Brazilian Portuguese	77.3%	10.6%	3.0%	7.6%
English	72.9%	10.4%	5.6%	9.5%
European Portuguese	75.8%	6.5%	3.2%	9.7%
German	39.3%	26.2%	11.5%	21.3%
Italian	76.4%	9.1%	1.8%	12.7%
Polish	73.4%	11.7%	1.6%	12.5%
Average:	**72.6%**	**10.6%**	**5.4%**	**9.8%**

2.7 Question 7: How Many Administrators

Question 7 asked about the number of system administrators each organization or business employed to care for these systems.

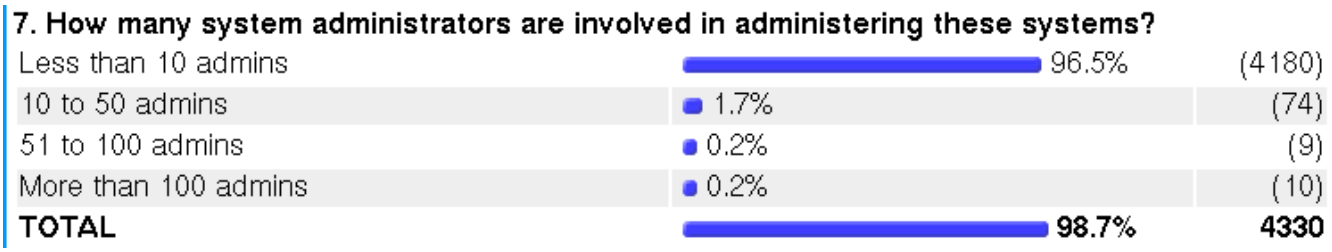


Figure 2.6: How Many Administrators

Answer key for Table 2-8:

A Less than 10 admins
B 10 to 50 admins
C 51 to 100 admins
D More than 100 admins

Table 2-8: Number of Administrators

Language	A	B	C	D
Brazilian Portuguese	92.4%	6.1%	-	-
English	96.8%	1.6%	0.2%	0.2%
European Portuguese	83.9%	4.8%	3.2%	3.2%
German	96.7%	-	-	-
Italian	96.4%	1.8%	-	-
Polish	96.9%	3.1%	-	-
Average:	**96.5%**	**1.7%**	**0.2%**	**0.2%**

2.8 Question 8: Acquired Skills

Question 8 focused on how the current administrators acquired their skills.

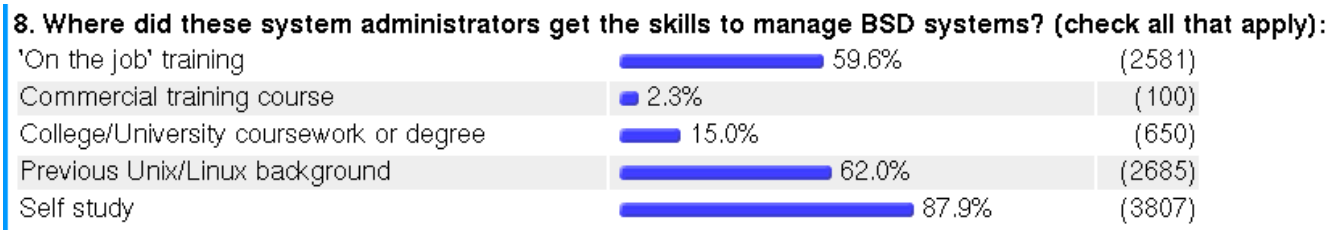


Figure 2.7: Acquired Skills

Answer key for Table 2-9:

A 'On the job' training
B Commercial training course
C College/University coursework or degree
D Previous Unix/Linux background
E Self Study

Table 2-9: How Skills Acquired

Language	A	B	C	D	E
Brazilian Portuguese	47.0%	10.6%	7.6%	60.6%	81.8%
English	59.8%	2.0%	15.4%	61.8%	87.7%
European Portuguese	46.8%	14.5%	19.4%	67.7%	85.5%
German	45.9%	3.3%	4.9%	67.2%	95.1%
Italian	45.4%	1.8%	12.7%	54.4%	83.6%
Polish	79.7%	.8%	10.2%	68.0%	96.9%
Average:	**59.6%**	**2.3%**	**15.0%**	**62.0%**	**87.9%**

From a certification point of view, this is probably the most interesting question on this survey. The following points are worth considering when making a business case for BSD certification:

- Nearly 60% of responders chose "on the job training". This may be an indication that employers prefer a "base" of education upon which they add the requirements specific to their environment. It may also be an indication of a lack of available training elsewhere, resulting in loss of productivity, and therefore increased cost, for both the employee being trained and the employee providing the training.

- An average of 2.3%, with wider variations per language, indicated "commercial training course". This could be seen as an indication of an entire market segment that is not currently being addressed. It may also be an indication of a current lack of quality which is something a standardized BSD certification can help to address.

- 15% of responders chose "college/university". This seems to indicate a lack of BSD, or possibly other Open Source/Unix, being taught in current post-

secondary curricula or perhaps the current courseware has a lack of practical skills which can be directly translated into employment practice.

- 62% of responders chose "Unix/Linux background". This indicates transferability of skills which allows employers to leverage the skills of existing Unix administrators when implementing BSD systems. A BSD Certification standard should help those existing administrators fill in any "knowledge gaps" and ease the transferability of their existing skills.

- Nearly 88% of responders chose "self-study". As a positive, this may be an indication of the quality of BSD administrators; as a negative, it may indicate "knowledge gaps". The question also begs to be asked: "when does this self-study occur?" During work hours which translates into hidden training costs? During after work hours which may result in hidden costs due to increased sick time? Or does self-study occur during periods of unemployment?

2.9 Question 9: How Are BSD Systems Used

Question 9 sought to determine how BSD systems are actually used in the organization or business.

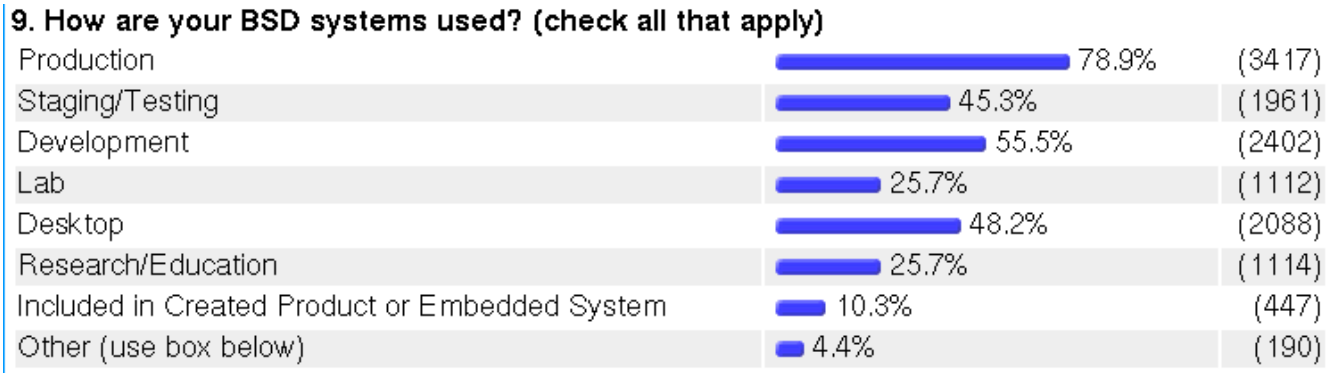


Figure 2.8: How Are BSD Systems Used

Answer key for Table 2-10:

A Production
B Staging/Testing
C Development
D Lab
E Desktop
F Research/Education
G Included in Created Product or Embedded System
H Other

Table 2-10: BSD Systems Usage

Language	A	B	C	D	E	F	G	H
Brazilian Portuguese	89.4%	42.4%	43.9%	47.0%	59.1%	21.2%	21.2%	1.5%
English	79.2%	45.4%	57.0%	25.8%	48.0%	26.4%	10.0%	4.2%
European Portuguese	75.8%	48.4%	41.9%	27.4%	35.5%	16.1%	21.0%	11.3%
German	63.9%	50.8%	44.3%	9.8%	75.4%	21.3%	11.5%	11.5%
Italian	72.7%	29.1%	56.4%	29.1%	43.6%	18.2%	20.0%	-
Polish	76.6%	46.9%	24.2%	15.6%	44.5%	18.0%	5.5%	5.5%
Average:	**78.9%**	**45.3%**	**55.5%**	**25.7%**	**48.2%**	**25.7%**	**10.3%**	**4.4%**

2.10 Question 10: Other Uses

Question 10 allowed for individual write-in responses regarding how BSD systems are used. The responses have been categorized and charted in Table 2-11.

Answer key for Table 2-11:

A Brazilian Portuguese
B English
C European Portuguese
D German
E Italian
F Polish

Table 2-11: Specified Usage

Usage	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
AAA		22					**22**
Administration		1					**1**
AV		2					**2**
Applications		16		3			**19**
Backups		7					**7**
BigIP		1					**1**
Billing		1					**1**
Bittorrent		2					**2**
CA		2					**2**
Caching		2					**2**
CAD		1					**1**
Chat/IRC/IM		17					**17**
Clustering/HPC		7					**7**
Compiling		4					**4**
Content Distribution		2					**2**
CVS/subversion		40	1				**41**
Data Recovery		1					**1**
Database		63					**63**
Desktop		19		1			**20**
Development		23					**23**
Directory Services/LDAP		10					**10**
Distributed Processing		5					**5**
DNS		2	1				**3**
DRM		1					**1**
Embedded		10					**10**
Engineering		2					**2**
Fax		3					**3**

Usage	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
File Server		1		1		2	**4**
Financial		1					**1**
Firewall		2	1	1			**4**
FTP		12					**12**
Gaming		8				4	**12**
HAM		1					**1**
Hosting	1	5	2				**8**
IDS/IPS		7					**7**
Image/Video Processing		3					**3**
IPTV		1					**1**
IPv6		2					**2**
iSCSI		1					**1**
Jails		4					**4**
Java		2					**2**
Logging		4					**4**
Mail Services		151					**151**
Mobile		1					**1**
Monitoring		22					**22**
Multimedia/ Streaming		13				1	**14**
NAT		1	1				**2**
Network Management		8					**8**
NFS		2		1			**3**
NNTP		5					**5**
NTP		11					**11**
PBX		2					**2**
Pentesting		5				2	**7**
phylip		1					**1**
Printing/CUPS		2					**2**

Usage	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
Proxy/Filtering		25					**25**
Research		1					**1**
Robotics		1					**1**
Routing		3		2			**5**
rsync		2					**2**
Samba		6					**6**
SAN		1					**1**
School Lab		1					**1**
Security		3					**3**
SMS		1					**1**
SSH		4					**4**
SSO		1					**1**
Solar Power Mgmt.		1					**1**
Terminal Server		1					**1**
Testing/Sims		3					**3**
VNC/RDP		2					**2**
VoIP		4					**4**
VPN		6					**6**
Web Services		14					**14**
WAP		1					**1**
X Server		4					**4**

2.11 Question 11: What Services Are BSD Systems Providing

Question 11 sought more specific detail on how BSD systems are used by asking for specific services.

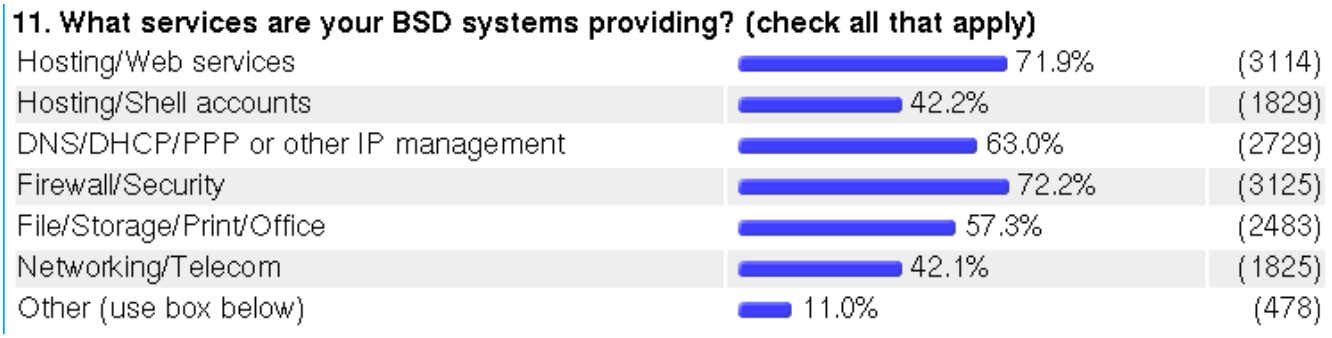


Figure 2.9: What Services are BSD Systems Providing

Answer key for Table 2-12:

A Hosting/Web services
B Hosting/Shell accounts
C DNS/DHCP/PPP or other IP management
D Firewall/Security
E File/Storage/Print/Office
F Networking/Telecom
G Other

Table 2-12: Services Running on BSD Systems

Language	A	B	C	D	E	F	G
Brazilian Portuguese	78.8%	34.8%	75.8%	87.9%	51.5%	80.3%	7.6%
English	71.8%	42.4%	62.3%	71.5%	58.2%	41.1%	11.2%
European Portuguese	79.0%	45.2%	74.2%	83.9%	53.2%	43.5%	4.8%
German	54.1%	39.3%	63.9%	73.8%	57.4%	39.3%	13.1%
Italian	67.3%	27.3%	52.7%	72.7%	43.6%	38.2%	18.2%
Polish	79.7%	46.1%	77.3%	78.9%	40.6%	57.8%	7.0%
Average:	**71.9%**	**42.2%**	**63.0%**	**72.2%**	**57.3%**	**42.1%**	**11.0%**

2.12 Question 12: Other Services

There were many other responses regarding how BSD systems are used. Table 2-13 contains a consolidated view of other services provided by BSD systems.

Answer key for Table 2-13:

A Brazilian Portuguese
B English
C European Portuguese
D German
E Italian
F Polish

Table 2-13: Other Specified Services

Service	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
AAA	1	13	1				**15**
Academic		1					**1**
Applications		10			1		**11**
Backup Server	1	2		1			**4**
Bandwidth Limiting	1						**1**
CA		2					**2**
Compiling		4					**4**
CVS/subversion		28	1	1			**30**
Database		44		2	3	1	**50**
Desktop		19					**19**
Development		21					**21**
distcc						1	**1**
e-commerce					1		**1**
Embedded		5					**5**
Fax server				1			**1**
FTP		5				2	**7**
Gaming		7				2	**9**
HPC clustering		4					**4**
IDS		5					**5**
IPv6 tunnel		2					**2**
IRC/chatserver		13			1		**14**

Service	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
LDAP		6					**6**
Logging Server		2					**2**
Mail services	2	140		4	3	1	**150**
Monitoring		21				1	**22**
Multimedia / Streaming		13		2		1	**16**
NAT						1	**1**
NNTP		1					**1**
NTP		7					**7**
PBX		2					**2**
Proxy or Squid	1	9			2		**12**
Samba		3					**3**
SAN		1					**1**
TFTP						1	**1**
VOIP		4					**4**
VPN		5		2			**7**
WAP		2		1	1		**4**
X server		2					**2**

2.13 Question 13: Where are BSD Systems In Use

Question 13 focused on where BSD systems were in use in the business or organization.

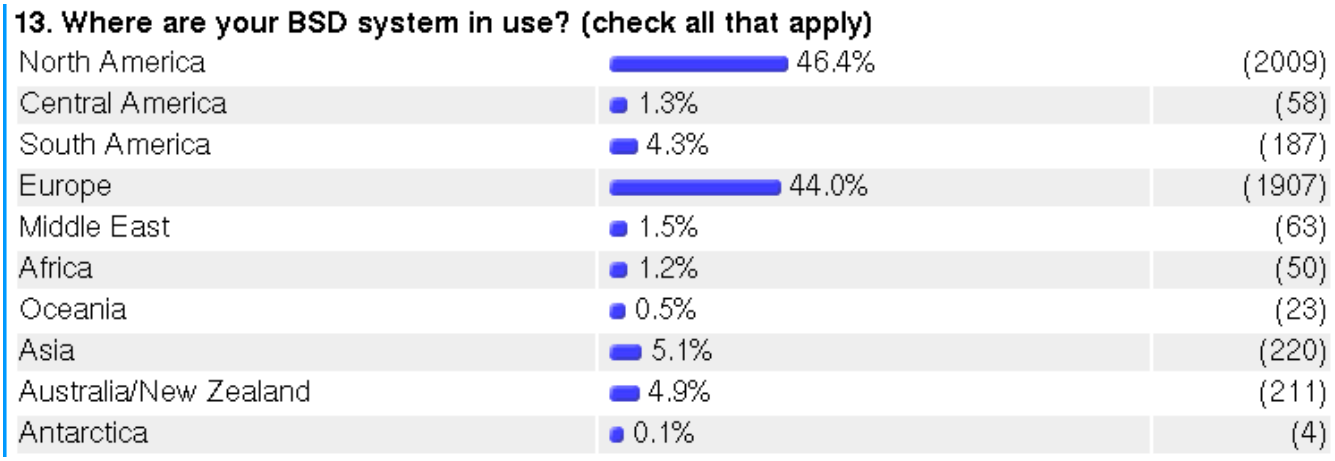


Figure 2.10: Where are BSD Systems In Use

For readability, Central and South America, and Australia, New Zealand and Oceania have been combined in Table 2-14.

Answer key for Table 2-14:

A North America
B Central/South America
C Europe
D Middle East
E Africa
F Asia
G Australia/New Zealand/Oceania

Table 2-14: Location of BSD Systems

Language	A	B	C	D	E	F	G
Brazilian Portuguese	1.5%	97.0%	-	-	-	-	-
English	50.5%	3.9%	41.2%	1.5%	1.2%	5.5%	5.9%
European Portuguese	8.1%	41.9%	59.7%	1.6%	3.2%	1.6%	3.2%
German	1.6%	-	98.4%	-	-	-	1.6%
Italian	-	-	98.2%	-	-	-	-
Polish	3.1%	0.8%	96.9%	0.8%	-	0.8%	0.8%
Average:	**46.4%**	**5.6%**	**44.0%**	**1.5%**	**1.2%**	**5.1%**	**5.4%**

2.14 Question 14: Country List (Optional)

Many responders provided detailed lists of countries where their BSD systems are used. Each country mentioned is included in Table 2-15.

Answer key for Table 2-15:

A Brazilian Portuguese
B English
C European Portuguese
D German
E Italian
F Polish

Table 2-15: Specified Country

Country	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
Antigua		1					**1**
Argentina	1	5					**6**
Armenia		1					**1**
Australia		7					**7**
Austria		9		2			**11**
Azerbaijan		1					**1**
Basque		1					**1**
Belgium		17					**17**
Bermuda		2					**2**
Bolivia		1					**1**
Brazil	32	21	11				**64**
Bulgaria		15					**15**
Cambodia		1					**1**
Canada		129					**129**
Chile	2	5					**7**
China		16					**16**
Colombia		2					**2**

Country	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
Croatia		4					**4**
Cuba		1					**1**
Czech Rep.		14					**14**
Cyprus		1					**1**
Denmark		71					**71**
Dominican Republic		2					**2**
Egypt		1					**1**
England/UK		82					**82**
Estonia		12					**12**
Finland		19					**19**
France		57					**57**
Germany		96		16			**112**
Greece		7					**7**
Guatemala		2					**2**
Guernsey		1					**1**
Hong Kong		4					**4**
Hungary		10				1	**11**
Iceland		1					**1**
India		16					**16**
Indonesia		10					**10**
Iraq		1					**1**
Ireland		7					**7**
Isle of Man		1					**1**
Israel		10					**10**
Italy		15			20		**35**
Jamaica		1					**1**
Japan		16					**16**
Jordan		1					**1**
Kazakhstan		1					**1**

Country	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
Kenya		1					**1**
Korea		4					**4**
Latvia		8					**8**
Liechtenstein		1					**1**
Lithuania		9					**9**
Luxembourg		4					**4**
Macedonia		1					**1**
Malaysia		12					**12**
Mauritius		1					**1**
Mexico		9					**9**
Moldova		1					**1**
Mongolia		1					**1**
Netherlands		36					**36**
New Zealand		3					**3**
Norway		4					**4**
Pakistan		5					**5**
Paraguay		1					**1**
Philippines		4					**4**
Poland		41				33	**74**
Portugal		13	10				**23**
Romania		42					**42**
Russia		29					**29**
Saint Lucia		1					**1**
Saudi Arabia		4					**4**
Scotland		1					**1**
Serbia		2					**2**
Singapore		4				1	**5**
Slovakia		8					**8**
Slovenia		7					**7**
South Africa		14					**14**

Country	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
Spain		15					**15**
Sri Lanka		1					**1**
Sweden		63					**63**
Switzerland		20		2			**22**
Taiwan		8					**8**
Thailand		3					**3**
Turkey		6					**6**
Ukraine		45		1			**46**
USA		296				1	**297**
Venezuela		1					**1**
Vietnam		2					**2**
Wales		1					**1**
Zimbabwe		1					**1**

2.15 Question 15: Size of Organization By Number of People

In Question 15, the focus was determining the "people size" of the organization or business.

15. How large is your business or organization in terms of people?

Less than 100 people	71.3%	(3087)
100 to 500 people	12.1%	(522)
501 to 1000 people	3.5%	(152)
More than 1000 people	11.3%	(490)
TOTAL	**98.2%**	**4330**

Figure 2.11: Size of Organization By Number of People

Answer key for Table 2-16:

A Less than 100 people
B 100 to 500 people
C 501 to 1000 people
D More than 1000 people

Table 2-16: Number of People in Organization

Language	A	B	C	D
Brazilian Portuguese	51.5%	15.2%	10.6%	19.7%
English	71.2%	12.0%	3.4%	11.5%
European Portuguese	71.0%	9.7%	1.6%	12.9%
German	82.0%	8.2%	3.3%	1.6%
Italian	87.3%	7.3%	1.8%	3.6%
Polish	71.9%	16.4%	3.9%	7.0%
Average:	**71.3%**	**12.1%**	**3.5%**	**11.3%**

2.16 Question 16: Size of Organization Financially

Question 16 sought to determine the "financial size" of the organization.

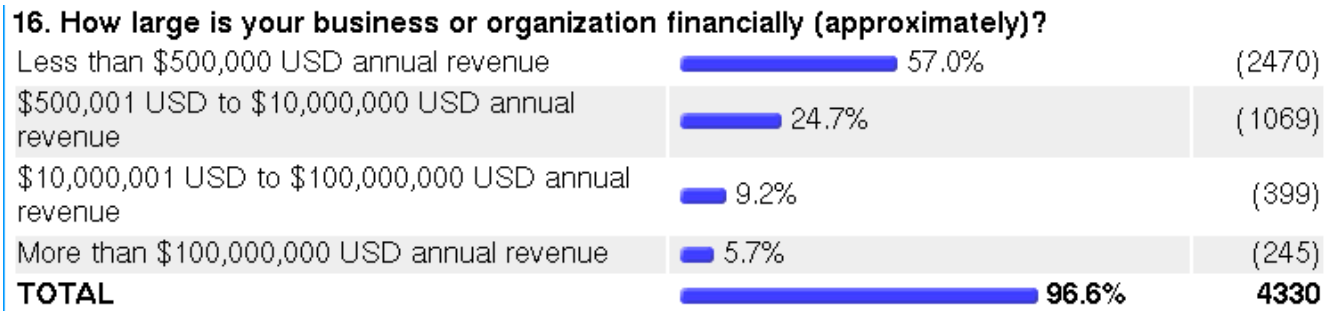


Figure 2.12: Size of Organization Financially

Answer key for Table 2-17:

A Less than $500,000 USD annual revenue
B $500,001 USD to $10,000,000 USD annual revenue
C $10,000,001 USD to $100,000,000 USD annual revenue
D More than $100,000,000 USD annual revenue

Table 2-17: Financial Size of Organization

Language	A	B	C	D
Brazilian Portuguese	45.5%	22.7%	18.2%	9.1%
English	56.7%	24.9%	9.3%	5.7%
European Portuguese	50.0%	30.6%	8.1%	6.5%
German	67.2%	13.1%	6.6%	1.6%
Italian	60.0%	27.3%	3.6%	7.3%
Polish	70.3%	19.5%	6.3%	3.1%
Average:	**57.0%**	**24.7%**	**9.2%**	**5.7%**

2.17 Question 17: Which Industries Use BSD Systems

Question 17 focused on understanding which industries use BSD systems in a significant way.

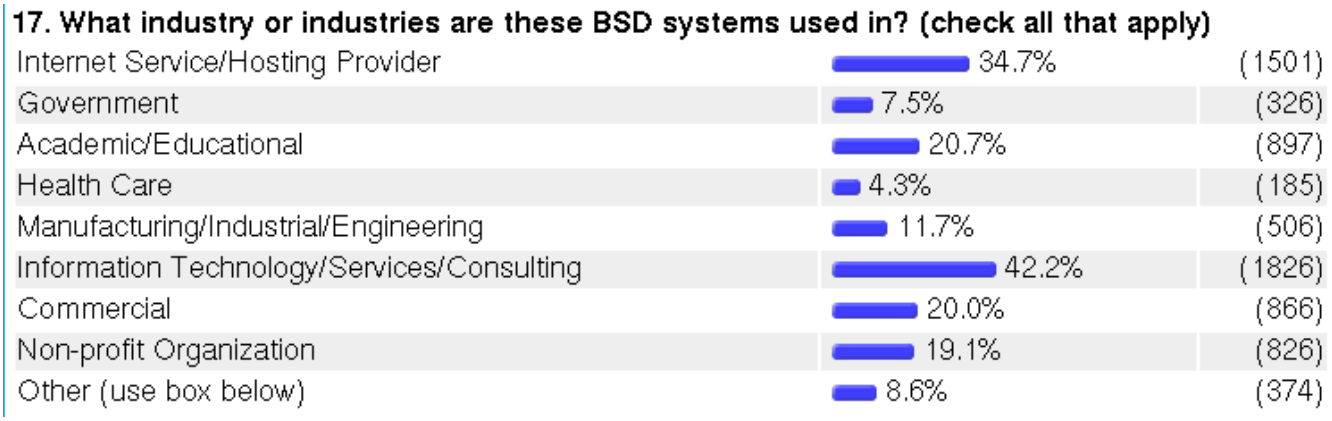


Figure 2.13: What Industries Use BSD Systems

Answer key for Table 2-18:

A Internet Service/Hosting Provider
B Government
C Academic/Educational
D Health Care
E Manufacturing/Industrial/Engineering
F Information Technology/Services/Consulting
G Commercial
H Non-Profit Organization
I Other

Table 2-18: Breakdown by Industry

Language	A	B	C	D	E	F	G	H	I
Brazilian Portuguese	37.9%	24.2%	18.2%	6.1%	22.7%	43.9%	27.3%	9.1%	9.1%
English	33.6%	7.2%	20.8%	4.3%	11.1%	41.5%	19.8%	19.6%	8.8%
European Portuguese	40.3%	8.1%	24.2%	9.7%	12.9%	53.2%	25.8%	12.9%	1.6%
German	32.8%	3.3%	13.1%	0.0%	23.0%	57.4%	23.0%	14.8%	8.2%
Italian	50.9%	9.1%	29.1%	7.3%	27.3%	40.0%	23.6%	21.8%	9.1%
Polish	57.0%	10.9%	18.0%	0.8%	12.5%	50.0%	15.6%	11.7%	5.5%
Average:	**34.7%**	**7.5%**	**20.7%**	**4.3%**	**11.7%**	**42.2%**	**20.0%**	**19.1%**	**8.6%**

2.18 Question 18: Other Industries Using BSD

Additional specific industries were provided by many responders. Their write-in responses were categorized and charted in Table 2-19.

Answer key for Table 2-19:

A Brazilian Portuguese
B English
C European Portuguese
D German
E Italian
F Polish

Table 2-19: Specified Industries

Industry	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
Accounting		1					**1**
Advertising		7					**7**
Aerospace/Defense		6				1	**7**
Agriculture	1	1					**2**
Architecture		1					**1**
ASP		2					**2**
Automotive		3					**3**
Aviation		2					**2**
Banking		9					**9**
Broadcasting		6					**6**
Brokerage/Finance		27				1	**28**
CAC				1			**1**
CCTV		1					**1**
Chemical		1					**1**
Construction		4					**4**
Consulting		5			1		**6**
Culture		2					**2**
Data Center		4					**4**
Development		13					**13**
Distribution		1					**1**
e-commerce		2					**2**
Education	1	5					**6**
Electric/Energy		4					**4**
Entertainment		5			1		**6**
Food/Catering	1	5		1			**7**
Gaming/Gambling		5				1	**6**
Geophysical/Mining		2					**2**
Graphics/Design		2					**2**
Health		2					**2**

Industry	*A*	*B*	*C*	*D*	*E*	*F*	*Total*
Home/Hobbyist		89		2	1		**92**
Hospitality/Hotel		7					**7**
Human Resources	1	1					**2**
Industrial		1					**1**
Insurance		1					**1**
ISP		1					**1**
Land Development		1					**1**
Legal		5					**5**
Library		1					**1**
Maritime shipping		1					**1**
Marketing		7					**7**
Media		9					**9**
Medical		1					**1**
Meteorology		2					**2**
Mobile		2					**2**
Music		4					**4**
Non-profit		3					**3**
Petroleum		2					**2**
Porn					1		**1**
Public Admin		14			1		**15**
Publishing/News		1					**1**
Real Estate		4					**4**
Research		5					**5**
Retail		10					**10**
Safety		1					**1**
Scientific		1					**1**
Security		3					**3**
SoHo		3					**3**
SFX		1					**1**
Telco	1	24				1	**26**

Industry	***A***	***B***	***C***	***D***	***E***	***F***	***Total***
Tourism/Travel		4				1	**5**
Translation						1	**1**
Transportation		5					**5**
Union	1						**1**
Veterinary		1					**1**
VoIP		4					**4**
Warehousing		1					**1**
Web		3					**3**
Wireless		1					**1**

3 Comments

Question 19 on the BSD Usage Survey gave responders the opportunity to input comments. The comments section of any survey is usually the most revealing as individual responders have the opportunity to voice their opinion, clarify their responses and provide personal insight which can't be collected by simply gathering statistics from a limited amount of selections. In addition, such an "open-ended" comment box reveals what is on the minds of the responders and can raise questions not addressed by the survey and which may warrant another survey with a different or more detailed focus.

The comments have been loosely organized into sections. Many comments voiced the same sentiment; these are summarized in the first section of comments. Remaining sections contain entire comments as seen on the survey. The only edits were the correction of mis-spellings to improve readability, and the removal of personal or company names to protect the privacy of the responder. The comments were not edited to make them "politically correct"--please remember that these are personal opinions and they don't necessarily reflect the opinion of the BSDCG or any other BSD project.

The comments under "Personal Stories" provide an interesting "inside view" into BSD usage as experienced by the responders.

Several responders had specific recommendations or concerns regarding BSD certification. There comments can be found in the "On Certification" section.

The comments in the "On Desktops" section reveal areas that require more development and/or awareness in order for BSD to see more mainstream adoption in the desktop arena.

Some responders described specific limitations they have experienced and wished could be addressed. These can be found under the "Wish lists" section of comments.

Finally, specific recommendations for this or future surveys can be found under "Survey Suggestions".

3.1 Comments

The survey contained over 350 comments, including:

- 3 comments on the coolness or lack thereof of the various BSD projects' mascots or logos
- 60 comments on the general greatness of BSD systems, including phrases such as "BSD rocks", "BSD rules", "wonderful OS" and "I love BSD"
- 25 comments on the stability and reliability of BSD systems, including "BSD is the most stable system on our network"
- 4 comments on BSD uptimes compared to other operating systems
- 1 comment correcting grammar usage on the survey
- 30 comments describing the number and versions of BSD systems in use
- 1 comment that the certification should be strongly technical with preferably a practical component
- 29 comments clarifying that the responder was not a "company" but a home user or SOHO: many felt they didn't "fit" this survey and requested a survey specifically targeted at this audience
- 19 comments indicating personal preference on the BSD system in use
- 4 comments wishing the BSDCG the best
- 18 comments thanking the BSDCG for the work done so far
- 1 comment on how easy BSD systems are to keep up-to-date
- 5 comments from responders indicating they want to take the certification
- 2 responders commented on using BSD where other operating systems weren't considered as secure
- 5 comments on question 16 clarifying their answer and another 2 suggesting a "no revenue" option
- 2 comments looking forward to seeing results of survey
- 1 comment suggesting a one admin option for question 7

- 3 comments clarifying the person's role in their company

Personal stories:

Before the company I work in, I was a Project Manager at (a company in) France, every single piece of global servers were using FreeBSD 3.x and 4.x. We're talking about hundreds of FreeBSD mail / dns / web servers. Right now (this company) collapsed in France and these boxes are not serving anything anymore... if only the business was as strong as BSD.

BSD's are used because they provide a very coherent environment and platform for different activities, and so are more easy to administrate than for example Linux. BSD's are open (source). Linux is plagued by too many distros (which may also be good in some aspects). The rapid development of the Linux kernel also makes it more prone to security issues. Combine this with the lack of a good integration of "kernel" and "applications", and you get a lot to keep track of. BSD's make up a whole world of kernel and applications. BSD's are open (source), like Linux. If BSD's had a better support for graphics cards (like nvidia, yes FreeBSD have i know), I would not hesitate to use it on the desktop (which is not the only reason why i do not use it on the desktop today).

Embedded BSD is great, we can manage 1000s of embedded systems with little effort. We also use BSD for our in-house servers, which require a little more management. This dual-use skews the statistics you are getting from us - internally we don't use much BSD, but we sell a lot of BSD in our embedded products and nobody even knows it is there.

FreeBSD has been a "secret weapon" of mine for many years now, and it has NEVER let me down. Even in cases of catastrophic hardware failures, the consistency and flexibility of FreeBSD has always left me an escape route so that I can get major services up and running very quickly. FreeBSD continues to amaze me, even in experimental environments. I recently had a motherboard fail in an old i386 machine of mine. It was not a very important machine, but I wanted to have it running again, so I went out and got the cheapest replacement hardware I could find that day, which happened to be an Athlon64 setup. The machine booted--as expected--as soon as I turned it on. But I wasn't surprised until I did an amd64 cross-compile of world & kernel and was able to reboot into a 64-bit environment!

FreeBSD has been an ideal operating system on which to base our custom embedded "office appliance", because it has an exceptionally well-organized

layout, and has some very useful tools for software versioning management, such as ports and cvsup.

I chose OpenBSD as our firewall technology, because it is reliable, very well documented, and under constant development. I like systems under constant development, because if something is broken I can (or the OpenBSD community will) find a fix for the problem. There simply are no non-fixable problems. In my several years of experience with OpenBSD the amount of new bugs introduced due to the ongoing development is not as much of a problem to negate the previously mentioned benefit.

I have one computer running FreeBSD and one computer running OS X 10.3. Both of these are used for snort monitoring and nessus scanning. Both of these are unsupported and are unknown to most of the other people. I chose BSD because of its unparalleled reliability and security. I do not have much *nix experience, which was why I selected FreeBSD over OpenBSD. "Absolute BSD" was invaluable in helping me get it set up and keeping it maintained.

I needed to get a development hosting server up and running on my own. FreeBSD provided an avenue with very clear instructions. Plus, it seemed like an obvious choice given my desktop preference for Mac OS X. I can now share a tremendous amount of information freely between my systems. The flexibility and performance of the FreeBSD server has impressed my colleagues who rely almost entirely on the Windows operating system (poor souls!)

I work for the medical branch of a very large company consisting of over 200,000 employees worldwide. Some of the main platforms used are Intel servers running Windows, iSeries servers running OS/400 and Linux servers running on Intel or hosted via VMWare. The BSD's only occupy a very tiny niche within the company and with the exception of those that I've proposed/implemented, are used outside the continental US. My company has a strong focus on network/computer security so I really don't understand why--with their reputation in this area--that the BSD's aren't more widely accepted or deployed. The only reason I can think of is because the BSD's aren't as recognizable or widely known as OS' like Windows and Linux within my Company. Not only that but Linux is the only Open Source operating system that seems to have greater market share in our divisions located in Europe. A BSD certification is an excellent idea and one that will hopefully propel these stable/secure operating systems into the corporate mindset but I think more still needs to be done on the advocacy/marketing front and I don't think the big $$$ from corporate backing that Linux has enjoyed is necessarily a requirement. I think there should be a group or foundation formed consisting of representatives of each of the BSD's whose primary focus is on advocacy and generating recognition/awareness. The formation of such a group

combined with your certification efforts would be a powerful way to generate awareness, recognition and acceptance of the most stable and secure operating systems the world has ever seen.

I'm one of those 'ties' making final decisions on which platform/OS to use and which hardware to buy. Of course the ground work for all my decisions is done by techies. Since we moved from Windows/Linux to BSD operating costs have been reduced by 40% and productivity has been increased by 80%. And safety ... well, we always used BSD for firewalling, so no effect there.

May be interesting to note that of our BSD servers, less than a third of them are x86 platform. We use mostly PowerPC and Alpha processors on the back end, which I believe augments our security profile to a certain degree. The efficiency, clean implementation, and platform-independent driver model of NetBSD is greatly appreciated here. We deploy a common pkgsrc tree over all of our systems, including NetBSD, FreeBSD, Linux, OS X, and Windows (+Interix) systems.

NetBSD is the most impressive Unix-like distribution I have used. As a regular user and administrator on AIX systems (which are extremely advanced, stable, robust and mature) I find that NetBSD measures up well. NetBSD is a great example of how open source systems, developed by volunteers, can attain the same or greater quality than extremely expensive systems. Whenever there is a new need for a server in one of my clients' environments, I find it prudent to consider NetBSD as an option for the operating system.

The use of open source software within our organization was particularly valuable when our organization had limited cashflow, it provided us with a high quality platform which fulfilled our needs for services and network infrastructure, and has been able to grow with our organization. We sincerely appreciate the work and effort that the community put in to provide these things to the world to use. It might be interesting to also have these kinds of questions in the survey : - duration of use - whether there were transitions from or to other operating systems - the factors that played a role in choosing a BSD operating system (cost, source access, security, reliability, etc)

Because the hotel industry, like the Airline Industry and some others make better use of technologies like *BSD/ Unix and GNU/Linux - particularly in back office systems and terminal type clients, BSD is an ideal consideration, especially in regions listed above where cost considerations and long-term ROI are very important.

BSD has been one of the most secure and robust of the *NIX variants available. It

offers flexibility in terms of development and a strong security model equal to commercial offerings. We feel however BSD and it's sub-branches should also include better desktop support (such as PC-BSD is doing). If Apple can bring an ease of use to the masses in both Server and Desktop platforms then so can the BSD community at large.

BSD lives next to other OS's typically in production clusters where the choice of OS is made early on. Most systems that need to be running without administration after they have been shipped use BSD. Question on choice for BSD might be useful here, we use it because of available knowledge, stability and security. Question on who uses the BSD boxes and how: we have normal users with FreeBSD desktops (they don't know it) and have people using applications via web UI's that run on *BSD also without them knowing this.

I was first introduced to BSD-flavored OS back in high school with SunOS 4.1.4. Soon after i landed a job working for an ISP that ran totally on FreeBSD. Ever since i have always had a soft spot for BSD (even while taking jobs using other OSes such as Solaris [2.x and up] and Linux), and to this day i use primarily BSD-based OSes on my home servers and workstations and laptops.

I'm actually in the process of migrating all of my production servers from Gentoo's GNU/Linux OS over to BSD-land...I'm looking at OpenBSD for these production servers. For desktop solutions, I'm working on building thin clients with BSD (I'm stuck with a limited budget and *old* Gateway PCs...). So far, it's faster than Windows 2000, and much easier to maintain.

I'm using OpenBSD because of the security. I will use NetBSD in the near future, but with a bit more apprehension. The NetBSD approach to "software engineering" appeals to me. FreeBSD looks too hacked to be useful to me. OpenBSD's refusal to use non-BSD compatible code in the kernel greatly appeals to me. I've suffered with non-open drivers (e.g. graphics card) -- it drives me nuts. I have investigated Linux and other GPL stuff -- I'm horrified at the low quality. I greatly prefer BSD licensing to GPL. I went to U.C. Berkeley and have Berkeley ethos -- correctness over potentially broken frills. The Linux (GNU) phenomenon is not rigorous enough for me; their engineering Kung Fu is lacking. I refuse to use Linux for this reason.

If I left *BSD would disappear. There overwhelming Windows and to a much lesser extent Solaris and Linux expertise at my University.

In the process of switching from a windows environment (xp, 2003 server) to all bsd based, including desktops. OpenBSD is used for networking, FreeBSD is used for webservers, fileservers, etc. Desktops are moving to FreeBSD and

Gnome... The only exceptions are the graphic designers who run OS X.

Love FreeBSD. After our administrators learn it (most have linux background) they all move towards it quickly. We've managed to switch over a few California based ISP's to use (almost) purely FreeBSD from previously using mostly Linux and some Windows boxes.

My organization does research in computer security. We heavily leverage OpenBSD for its embedded strong cryptography as well as for features such as its "pf" packet filter, which is arguably unmatched in any other Open Source or commercial product.

My workplace is a Windows-only-shop with exception of the lone OpenBSD server hosting our Subversion repository. The OpenBSD server just runs, and runs, without me holding its hands all the time.

NetBSD is used extensively, due to it's ease of use, feature-set, and ability to unify the administration of disparate hardware (ie: i386, DEC Alpha ,etc).

NetBSD's small install footprint, excellent performance and stability aided selection. The multi-platform support is excellent and welcome.

OpenBSD is the primary BSD used on the servers. Chosen over Linux, when migrating DNS services to a new platform. FreeBSD is being used on the desktop for the client end of Network Security Monitoring using SGUIL. OpenBSD is being used on the servers for SGUIL, MySQL and Nagios services. I have not tried NetBSD yet, but it is in the plan someday. I am the only BSD Administrator here. I think the BSD certification is a great idea. You probably should have 2 levels for the cert.

OpenBSD's small profile, low(no) cost, security and reliability make it great for recycling old hardware into new labs and test environments. Add a NIC or two and you've got routing, vpn, pf-nat, and so on... Production use remains limited due to upper management's ill perceptions about the software and availability of support.

Our office firewalls are m0n0wall, fileservers are FreeBSD with Samba, production servers are FreeBSD and production firewalls are OpenBSD with pf and carp. Approx 28 BSD servers and growing running on mainly Dell 1U servers 1750s and 1850s. Just installed a blade center with 1855s in it and FreeBSD works like a charm :) Virtually all servers are dual processor xeons.

Three years ago, every computer (server and desktop) was running Windows

except for a single Mac OS9 machine. Now, 6 of our 8 servers are OpenBSD. We are preparing to phase out our last Windows server in favor of OpenBSD. That will happen by the end of the year. The remainder is an OSX server. Half of our desktops are now OSX with the remainder being Windows and Linux.

Used to be about 95% windows here. Now, it is about 10% windows, 60% BSD and Linux, and 30% Mac OSX.

We build a large scale network monitoring product which runs only on FreeBSD. We currently have over 400 customer sites, each with at least one FreeBSD server. Some sites have multiple servers for redundancy reasons. All product and OS support is done centrally from Australia. Our product also contains a custom built Network Appliance platform that boots off a single FreeBSD base floppy disk. Our customers have deployed approximately 2000 of these Network Appliances as remote LAN Probes.

We chose FreeBSD for its superior network performance and security over Linux. It runs the same applications, but the ports-package system is superior to what any distro of Linux has. It is locked down tight from a fresh install requiring the admin to make the connections for remote machines. We are using it as our desktop OS in the shop part of our operation. The handbook that comes with it is also a big plus. The OS is solid as a rock. I've never had a FreeBSD machine crash, apps yes, the OS no. We run it on some PII and PIII machines for our shop operations. We have 1 P4 desktop in the office.

We chose FreeBSD to replace all RedHat Linux servers for our DNS, SMTP, WWW, POP, Anti-SPAM, Anti-Virus, Monitoring services. We also moved from Microsoft Access to MySQL on FreeBSD for price, performance & stability reasons. We make extensive use of jail(8) for our Dev, Staging & Production Apache+PHP+SSL and MySQL servers. The FreeBSD handbook, the world & kernel upgrades via cvsup(8), it's rock solid stability, the FreeBSD Security Advisory and the ports + packages systems makes this OpenSource UNIX our platform of choice. I have 6 years of UNIX administration experience on Solaris (sparc), AIX, HP-UX, RedHat Linux, SUSE Linux, Debian Linux, OpenBSD and AuspexOS. Of all the various UNIX flavors I've tried, FreeBSD is the best in terms of Documentation (Handbook is fabulous!) and software management (ports & packages). The only problem I have so far with FreeBSD is the lack of commercial support for Oracle and SAP. Because of this, I have to run RedHat Enterprise Linux for our Oracle databases. We use OpenBSD as firewalls. Thanks for your work on the BSD certs, I'll get certified for sure !

We produce web and email filter appliances based on FreeBSD, distributed throughout the world, as well as the support infrastructure to keep them up to

date. Most of the operation is automated, with a few simple installation and administration tasks provided by a simple Java/Web interface.

We use FreeBSD in our organization when we think it's a better option than a Microsoft related option. Our main network is a MS environment with Active Directory & xp clients. But FreeBSD is filling the important and often necessary gaps where Windows Server 2003 lacks quality in our opinion.

We used OpenBSD for early setup of our internet fabric. Since then, as people have changed jobs, and the system was redeployed, we have (unfortunately) moved to Cisco and the like. With high-speed internet connections, the need for caching is reduced anyway. Our first use was to connect an office with dialup as a router and cache. We retained the computer (a P2-133, if I recall) with broadband as a router and cache. It was replaced for idealogical reasons. We also set up a VPN to Cambodia from Canada. This was a failure, in that the VPN was never reliable. The fundamental carrier was unreliable and the IPSEC VPN was never able to cope. We also used an OpenBSD box for testing and development. The people moved to other projects, less data-centre focused, and the energy went out. The next data centre-like thing was done in Windows, and still causes no end of problems. I've walked away from that project, myself. I used OpenBSD as a niche machine for a need for higher security. It was useful in that context. High performance was not required. The only major thing I ever wanted in addition to what I had was a GUI configuration utility. That way, I could run the box headless, and show pretty browser interfaces to those up the food chain. Then we could have competed with SonicWall and Cisco.

We're a small start-up. The BSD family of OSes has enabled us to create products and provide an on-line store using no-cost systems. Without BSD we would never have got off the ground. A big thank-you to everyone who has contributed in whatever way. We've been supporting the cause for several years now and hope to be able to increase funding as our business grows.

While I no longer work there, I wanted to give my input of what we had when I was admin there. I had both our DNS servers running FreeBSD, and had an OpenBSD firewall in front of our admin pc's. All our other webservers and mail servers were running redhat (not by my choice), and those things would crap out at the drop of a hat, while my FreeBSD DNS servers would run at 3-4 million DNS queries a day, and had uptimes of 5-6 months, and the downtimes were only for patches. I never had a security breach or a problem one with my DNS servers or OpenBSD firewall. Since my split with the company, they've replaced the DNS servers with redhat, and they're constantly having DNS issue.

While the majority of our systems are Linux based, they have failed to work

properly many times, I am not the admin of any of the Linux systems, so I cannot say with any accuracy if it is a failure of the Linux Administrator or a fault in Linux and the other software that is running on those systems. Because of this, I have been implementing (on the worst hardware ever I might add) BSD based systems to perform the duties that we are unable to get working properly on our Linux servers. Thus far, with one exception (lack of a patch, or something) the OpenBSD, NetBSD and DragonFly systems that I have implemented have been rock solid performers while our Linux systems have failed on more than 1 occasion.

Working in a R&D institute in an Engineering School, BSD systems are used for development of applications in Operational Research and Parallel Computing. Also used to manage Unix/Linux accounts and a production server of a department, including databases, web services, ... All main servers are (not so well...) managed by another entity of the school, and runs Win32.

BSD is the core of our Network Security infrastructure.

BSD has proven very robust and doesn't need as much intervention as linux. Much less unnecessary services, and admin build only the ones they need. I find starting from no services or very few is the best approach possible for exploitation of small hardware configurations, without altering performance.

FreeBSD replaced unreliable Redhat Linux boxes and I've never looked back.

Good survey, while filling out the form I was debating if people count BSD systems that are sold as turnkey solutions (like Isolan SAN and NAS systems and the like). In the end I did not, as administrators are trained not in the OS itself but in the proprietary management interfaces.

Linux has been making inroads against our deployed BSD systems due to better (perceived) integration with our corporate Windows AD environment. I don't necessarily agree with that - but see it happening.

NetBSD is great system, we did throw away all windows systems about 5 years ago and we have only few boxes with Win for test purposes, very specific needs and simply "just in case".

There are several cases where FreeBSD servers have been setup due to knowledge of administrators rather than being procured in my organization, even though the official server platform is Windows.

When you need to get something done it always seems to come down to a *nix

box. been using BSD on cheap (compared to sparc or AS400 anyway) pc hardware since the 80's.

We're using netbsd's pkgsrc on linux as well.

BSD usage will increase with three factors: 1. Growing disgust with fragmented Linux 2. Growing disgust with Windows 3. Growing experience by home users (like me).

I continue to use BSD for our most critical systems despite our company moving towards Linux. BSD is like home, I love it!

I work for a linux company that uses no bsd system what so ever, i use bsd at home for a firewall. i would like to see more production use of bsd though.

I would like to use more BSD based systems for our infrastructure, it's my "hassle-free" OS. We don't have dedicated IT staff so the developers have to feed & care for the systems, and I've never had a problem with the FreeBSD systems we use. Other systems in use include linux (a couple of different distros), windows 2k, windows xp, and mac os x.

My only regret as a FreeBSD admin is that FreeBSD isn't more widely recognized or supported by corporations.

I'm probably not a very typical user :-) (from a BSD core developer)

Our company is providing automation, telemetry, remote control and monitoring services - and NetBSD really helps to do this.

We are a network security products developer and manufacturer.

We are a research group within a university (2 other comments also indicated the responder was at a University).

We are a wholly-owned subsidiary of our parent company. We are responsible for IT and operational management. The parent company is a financial securities services company (trading). The IT/Management bit is about 300 people whereas the parent is about 700.

We are the student ACM group at a university. We have a few BSD boxes as firewalls routers and other servers. Our sysadmins prefer to use Solaris for our AFS servers and Debian for our fileservers. AIX and Solaris is used for Kerberos and we have a Windows AD server as well.

We're a 5-10 man book publishing company in Sweden that run our own BSD servers, as well as a couple of BSD desktop system.

We're a fraternity.

In use at a students dormitory, used for internet routing ,networking, mail relay and firewalling.

Research lab ~10 people at a University; mostly Windows clients by administrative fiat; FreeBSD server.

BSD use is unofficial: they came as a replacement for GNU/Linux systems (server) or Windows systems (desktops).

Even if the 'out of the box" stability of xBSD systems are better than GNU/Linux boxes, with custom kernels Linux seems better suited to "rich servers" (like web servers or alike). *BSD does their better as a gateway (one of the most interesting things is CARP, originated in OpenBSD but very well backported on FreeBSD).

I am using FreeBSD to develop real time image processing systems for face detection.

Running mostly Debian based computers... are however very interested in the ongoing Debian/FreeBSD project!

Trying to migrate linux servers to freebsd.

Using BSD for telecom based products.

We also bought firewall appliances based on FreeBSD OS (but without pf :)

We are so pleasantly surprised with BSD that we are considering moving our servers from Win2k Server to BSD.

We would like to educate users and admins for more use of BSD systems as desktop / server based solutions.

Web Service - squid, apache, and a cgi platform for third year computing students.

On Certification:

BSD systems are the backbone of my corporation. I will have my technicians become certified in BSD once these certifications are available.

I use FreeBSD at home. My small workgroup at my day job currently uses a Windows 2003 server. Our technical support person (Windows) is only available a few hours each week (has another full-time job). Someday at my day job or another, I may have an opportunity to install a FreeBSD system, so I continue my learning and preparation. FreeBSD certification would enhance my professional qualifications (statistician) for this job or another.

I was wavering between learning Linux or FreeBSD. Seeing as BSD is the only one of the two I can actually get installed, you guys won out. I'm hoping this whole "certification" thing becomes industry recognized.

What i mostly dislike of certification is that i have to spend a lot of euro to buy the documentation. Pay for the exam is fine but pay (a lot) to prepare an exam is horrible, especially if most of the documentation is just ... well you know ... look at Cisco CCNA ... Anyway go on I will for sure apply for a BSD certification if will be available in Italy. Well done !

Certification is bullshit. Don't waste your time, or try and foist this bull onto those of us who have been running BSD systems for 15 years!

For the purposes of certification and training, having administrators list the most important things to learn should be quite useful.

> **Note:** Please see the Report on the Task Analysis Survey which asked managers and system administrators to rate common BSD administrative tasks.

On Desktops:

Until the installation and 'basics' of a desktop 'setup' are conquered, I think many people will stay away from even trying any form of bsd-- which is a shame. Thank you very much for all of your efforts and concerns :)

Wider use is only limited by lack of desktop software. I love the environment, but having more commercial titles available would really help. Wine is useful; I'm working with CodeWeavers to get CrossOver Office ported. This would be a BIG plus.

Although freebsd is great for the server, on the desktop I am forced to use linux

due to a lack of an accelerated nvidia driver for amd64.

BSD needs more "desktop" peripherals support, but is one great system to explore.

Currently i run bsd on all my servers, but i'm still stuck with win xp for my desktops, as bsd is still currently not a viable option.

Would love to see bsd try and contend with ms as a workstation.

Having to move from FreeBSD to Linux or Solaris production servers for better Java support. 1.4.2 and 1.5 native JDKs have actually been quite reliable, but performance and "official" support are not up to par. Will continue using FreeBSD wherever possible - including Java staging, testing and development - as it is the cleanest, most reliable and easiest to administer UNIX available.

I love the ports system, but we can't use FreeBSD for desktop because of the steps involved in running Java and Flash.

I use freebsd where I can. I only use debian on the desktop because I can't get java to work with freebsd and I need java with firefox for online banking.

They need better integration with kde.

BSD systems are good enough to be both desktop systems and servers.

In our opinion, all the BSDs are powerful operating system for both desktops and servers. We use it in desktops, servers, and communication devices. Some of our intermediate systems and firewalls are running NetBSD. Those that do not run NetBSD, run IOS.

> **Note:** Please see the PC-BSD and DesktopBSD projects which are making good progress on ease-of-use BSD desktop operating systems.

Wish lists:

We don't see much open source OS being distributed in the UK by computer publications other than Linux. It's time BSD came out of the shadows and into UK homes. UK Publications are regularly putting out half full or less DVD's Got any ideas?

We have two types of servers--Novell Netware and *BSD. The *BSD machines are

much more stable than the netware machines, and if the manufacturing/warehousing software were available for *BSD, we'd dump Novell in a minute.

We would use BSD in preference to Linux, for it's clean architecture, excellent documentation, and reliability but we are dependent on particular hardware support (particularly the HP iLO features) which does not include any of the BSDs.

I love FreeBSD... it's the best... the only problem that I see (at least in my country - Romania) is the lack of commercial courses and books. If someone can solve this problem, it will be great.

I wish IBM Tivoli TSM was supported on FreeBSD.

Survey Suggestions:

This survey doesn't ask the right questions to express our particular uses. In particular, I didn't dare to call our data acquisition frontend boxes "servers" in terms of your question 5, albeit these are the most critical for us.

How about a survey for us consulting types to see what we do BSD wise for our clients?

Mac OS X is a BSD for better or for worse and should be included. Sun Solaris should also be considered. You may want to give a 100% option in the usage question. 76% to 100% is a bit vague when considering that some sites may be 100% BSD.

You apparently overlook the use of BSD in Mac OS X, which is clearly the largest distribution of BSD. If you are interested in true deployments of BSD technology, you should include the deployment of OS X, and respond to those installations accordingly.

Narrow in scope.

Your multiple choices are not fine grained enough 25%?? How about 2-3% etc.

Nice to see where BSD is using and where are strong and weak points. The Power To Serve On Servers!

4 Concluding Remarks

The BSD Usage Survey indicates that BSD systems are used throughout the world and are well respected for their reliability and inherent security. The BSD Certification Group intends to address the needs raised in this survey where they apply to creating a standard for testing BSD system administration skills. The BSDCG encourages other individuals, companies, and organizations to address other issues raised in the survey, such as creating, funding, and marketing additional application and driver support, desktop usability and BSD awareness.

The BSDCG also hopes that their BSD Usage Survey will be the first of many to follow. Future surveys will help to further clarify the existing BSD market and what measures are needed to increase BSD awareness and usage.