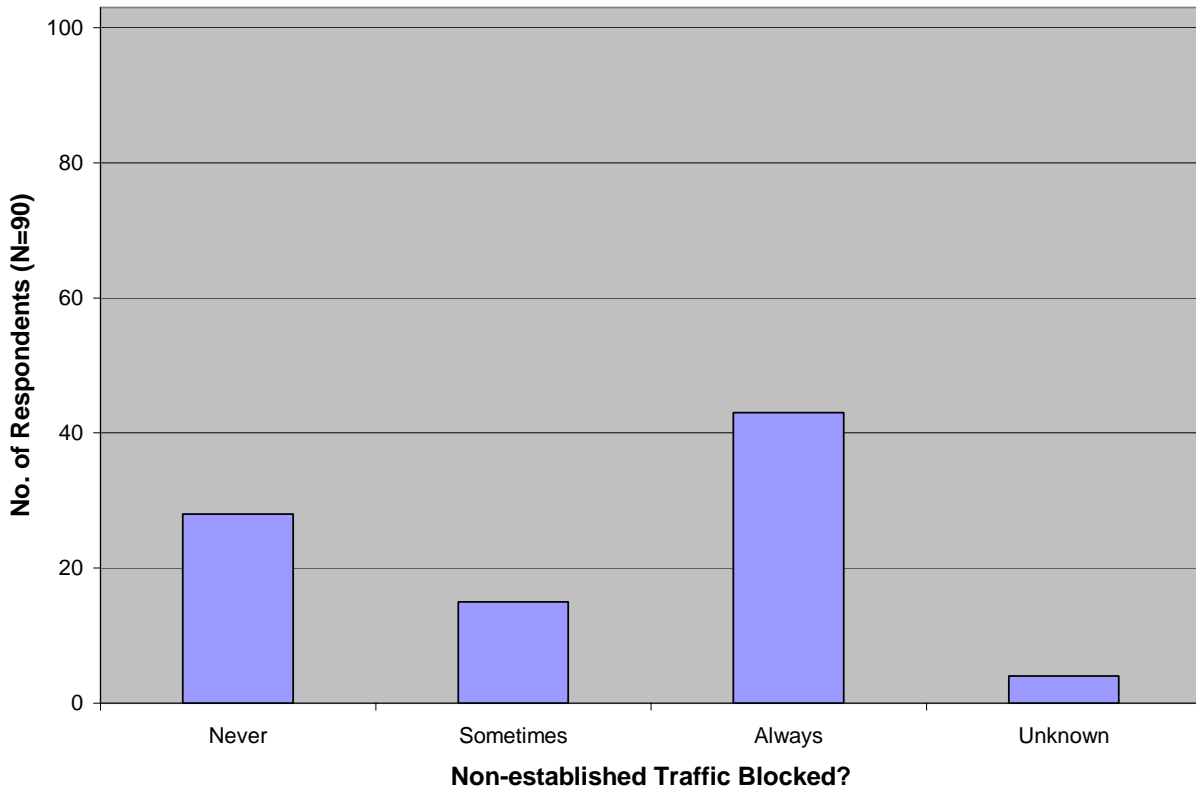


Questions 9-11 asked about specific services that institutions block, filter or otherwise restrict for security purposes, in any manner or situation, externally to, externally from, or within the residential computer network. Most of the services about which questions were asked were identical in all three questions. Therefore, instead of presenting the results from each question individually, the results from two or three of the questions will be presented together for ease of comparison. The sole exception will be the question related to "established traffic," a question that only reasonably applies to traffic originating outside the residential computer network.

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

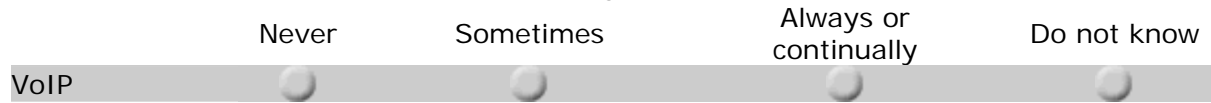
Never Sometimes Always or continually Do not know

We block all non-established traffic

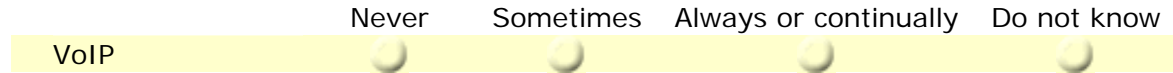


	Count	Percentage
Never	28	31%
Sometimes	15	17%
Always	43	48%
Unknown	4	4%

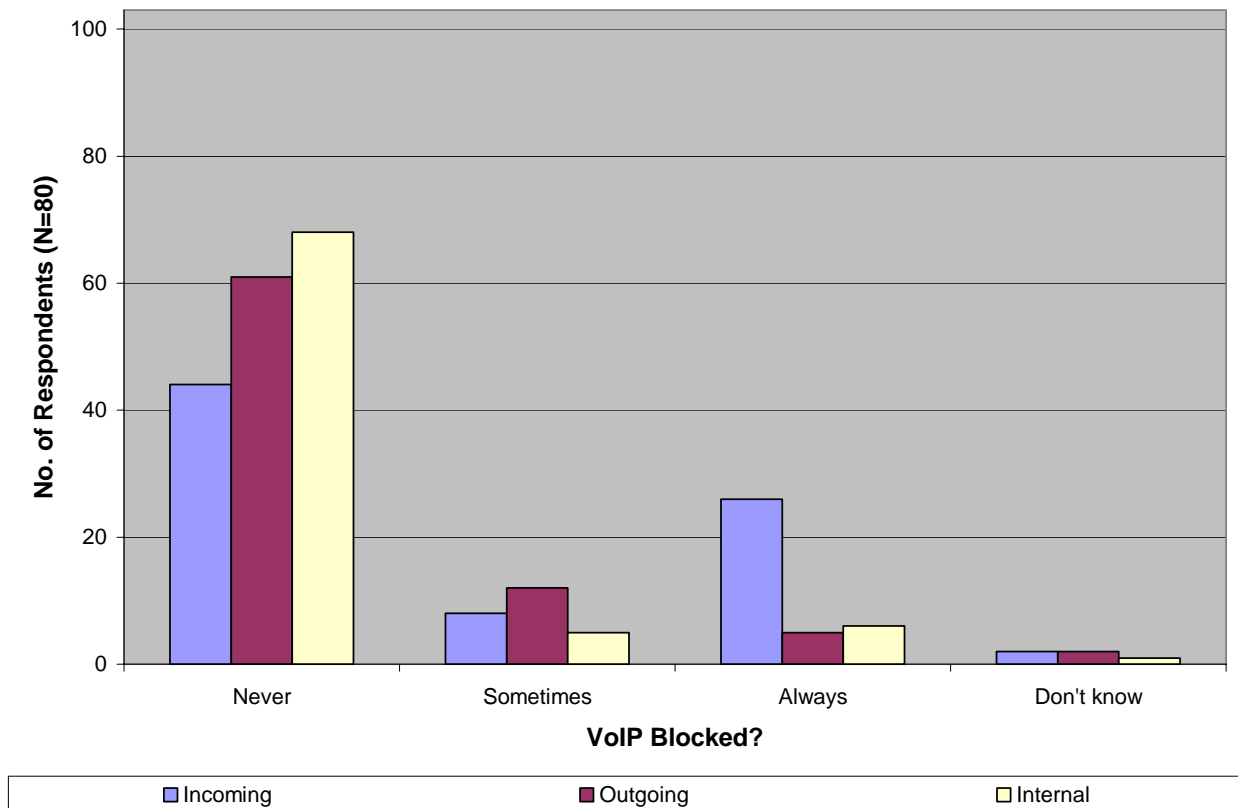
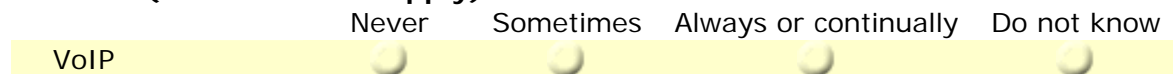
9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):



10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):



11. Please indicate when you block, filter, or otherwise restrict the following services *completely within* (i.e they never leave) the residential computer network (choose all that apply):



		Count	Percentage
Incoming	Never	44	55%
	Sometimes	8	10%
	Always	26	33%
	Unknown	2	3%
Outgoing	Never	61	76%
	Sometimes	12	15%
	Always	5	6%
	Unknown	2	3%
Internal	Never	68	85%
	Sometimes	5	6%
	Always	6	8%
	Unknown	1	1%

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

Never Sometimes Always or continually Do not know

P2P networking

10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):

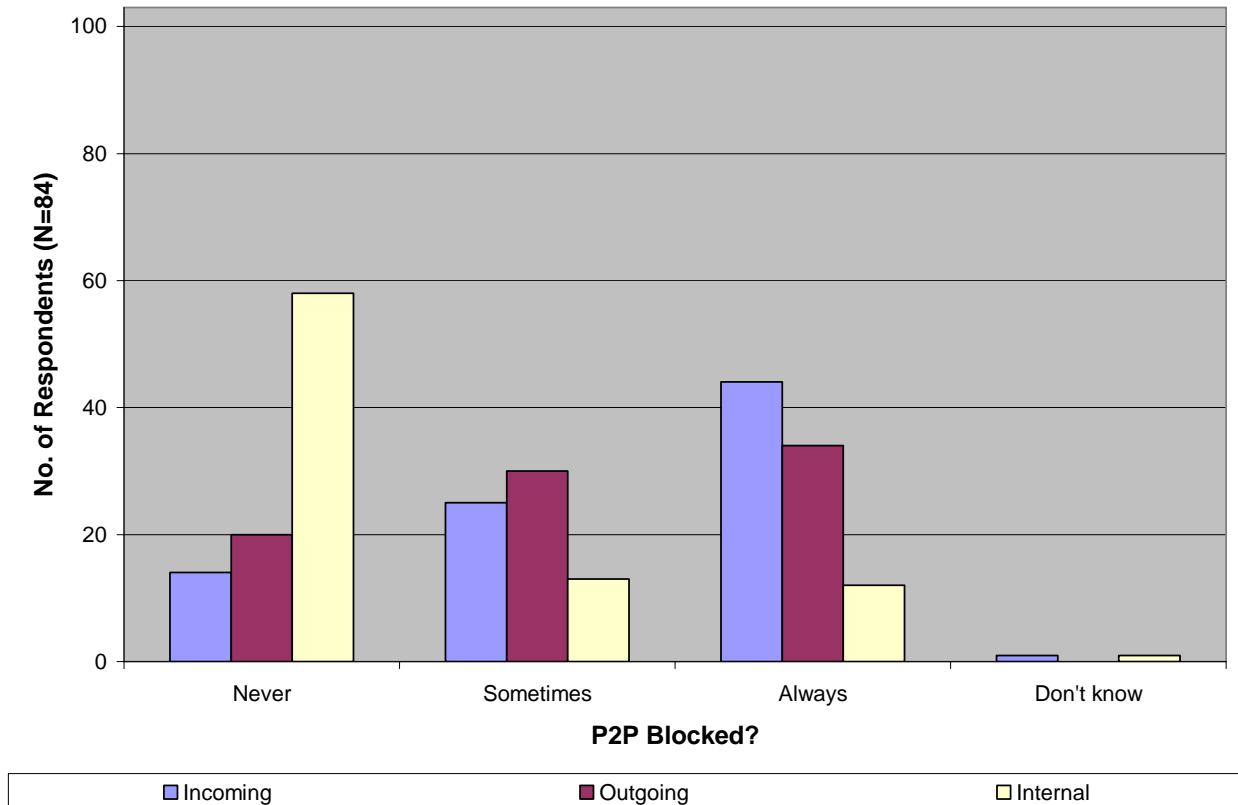
Never Sometimes Always or continually Do not know

P2P networking

11. Please indicate when you block, filter, or otherwise restrict the following services *completely within* (i.e they never leave) the residential computer network (choose all that apply):

Never Sometimes Always or continually Do not know

P2P networking



		Count	Percentage
Incoming	Never	14	17%
	Sometimes	25	30%
	Always	44	52%
	Unknown	1	1%
Outgoing	Never	20	24%
	Sometimes	30	36%
	Always	34	40%
	Unknown	0	0%
Internal	Never	58	69%
	Sometimes	13	15%
	Always	12	14%
	Unknown	1	1%

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

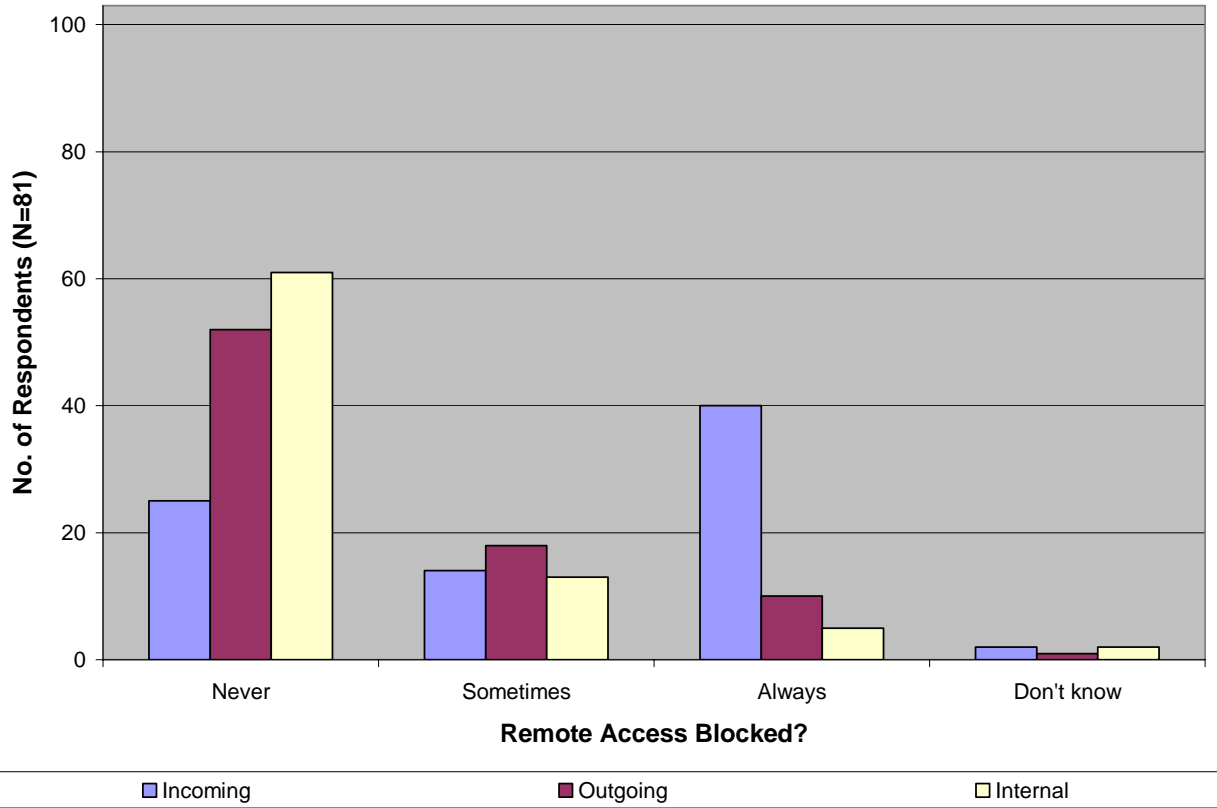
	Never	Sometimes	Always or continually	Do not know
Remote access (Windows Remote Access, PCAnywhere, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
Remote access (Windows Remote Access, PCAnywhere, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please indicate when you block, filter, or otherwise restrict the following services *completely within* (i.e they never leave) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
Remote access (Windows Remote Access, PCAnywhere, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



		Count	Percentage
Incoming	Never	25	31%
	Sometimes	14	17%
	Always	40	49%
	Unknown	2	2%
Outgoing	Never	52	64%
	Sometimes	18	22%
	Always	10	12%
	Unknown	1	1%
Internal	Never	61	75%
	Sometimes	13	16%
	Always	5	6%
	Unknown	2	2%

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

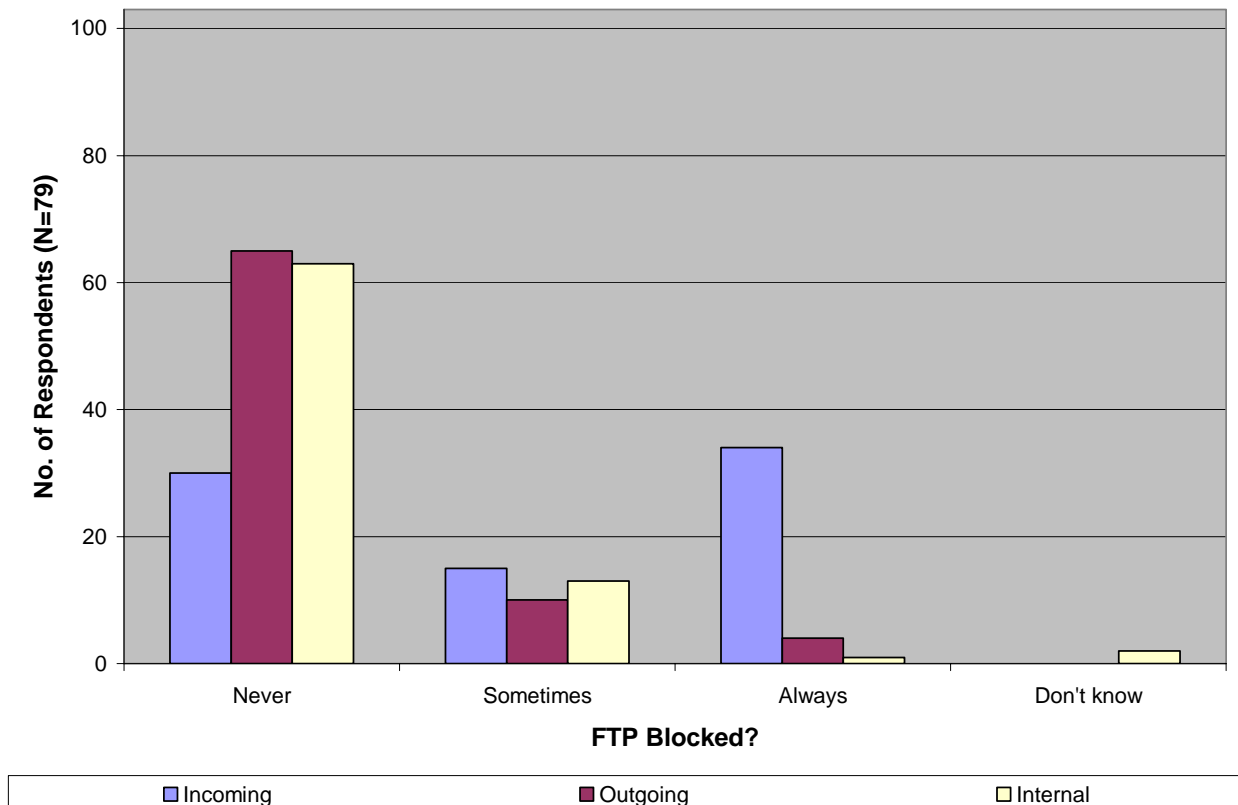
	Never	Sometimes	Always or continually	Do not know
FTP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
FTP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please indicate when you block, filter, or otherwise restrict the following services *completely within* (i.e they never leave) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
FTP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



		Count	Percentage
Incoming	Never	30	38%
	Sometimes	15	19%
	Always	34	43%
	Unknown	0	0%
Outgoing	Never	65	82%
	Sometimes	10	13%
	Always	4	5%
	Unknown	0	0%
Internal	Never	63	80%
	Sometimes	13	16%
	Always	1	1%
	Unknown	2	3%

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

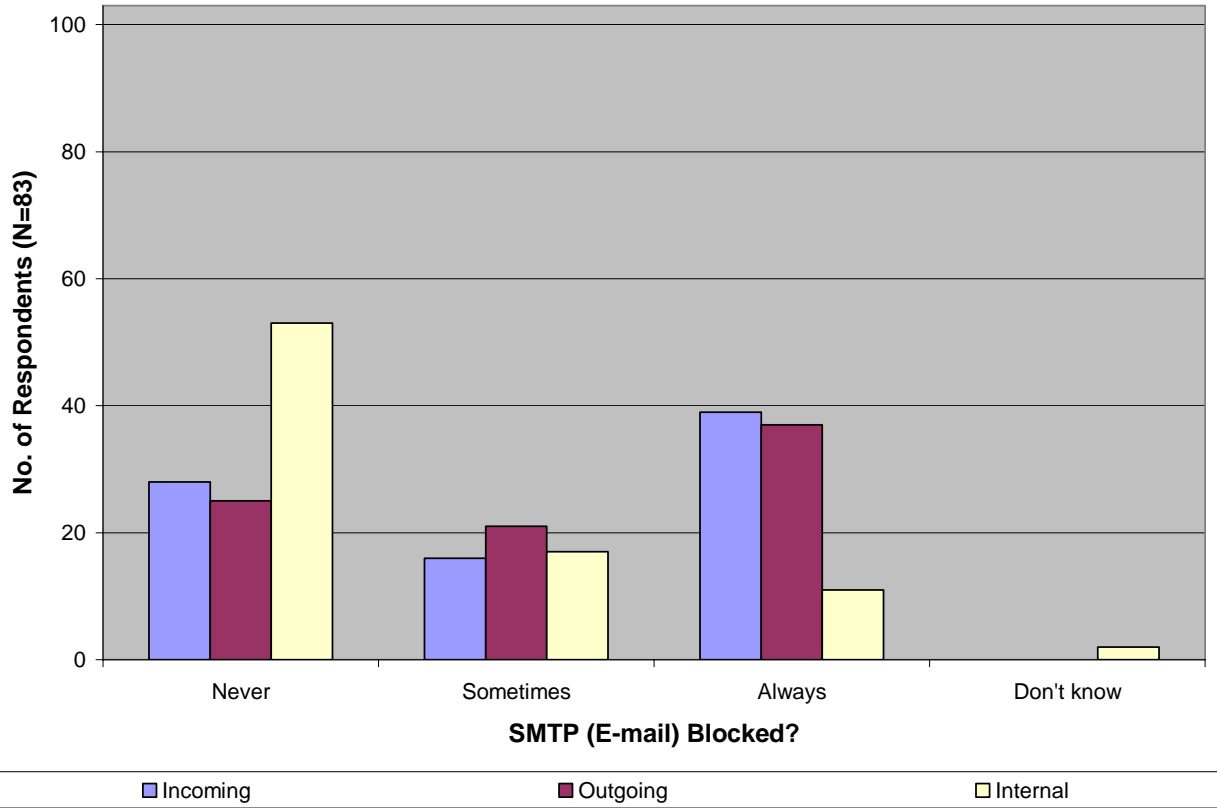
	Never	Sometimes	Always or continually	Do not know
E-mail (incoming SMTP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
E-mail (outgoing SMTP to non-institutionally-controlled mail server(s))	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please indicate when you block, filter, or otherwise restrict the following services *completely within* (i.e they never leave) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
E-mail (SMTP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



		Count	Percentage
Incoming	Never	28	34%
	Sometimes	16	19%
	Always	39	47%
	Unknown	0	0%
Outgoing	Never	25	30%
	Sometimes	21	25%
	Always	37	45%
	Unknown	0	0%
Internal	Never	53	64%
	Sometimes	17	20%
	Always	11	13%
	Unknown	2	2%

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

Never Sometimes Always or continually Do not know

IRC

10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):

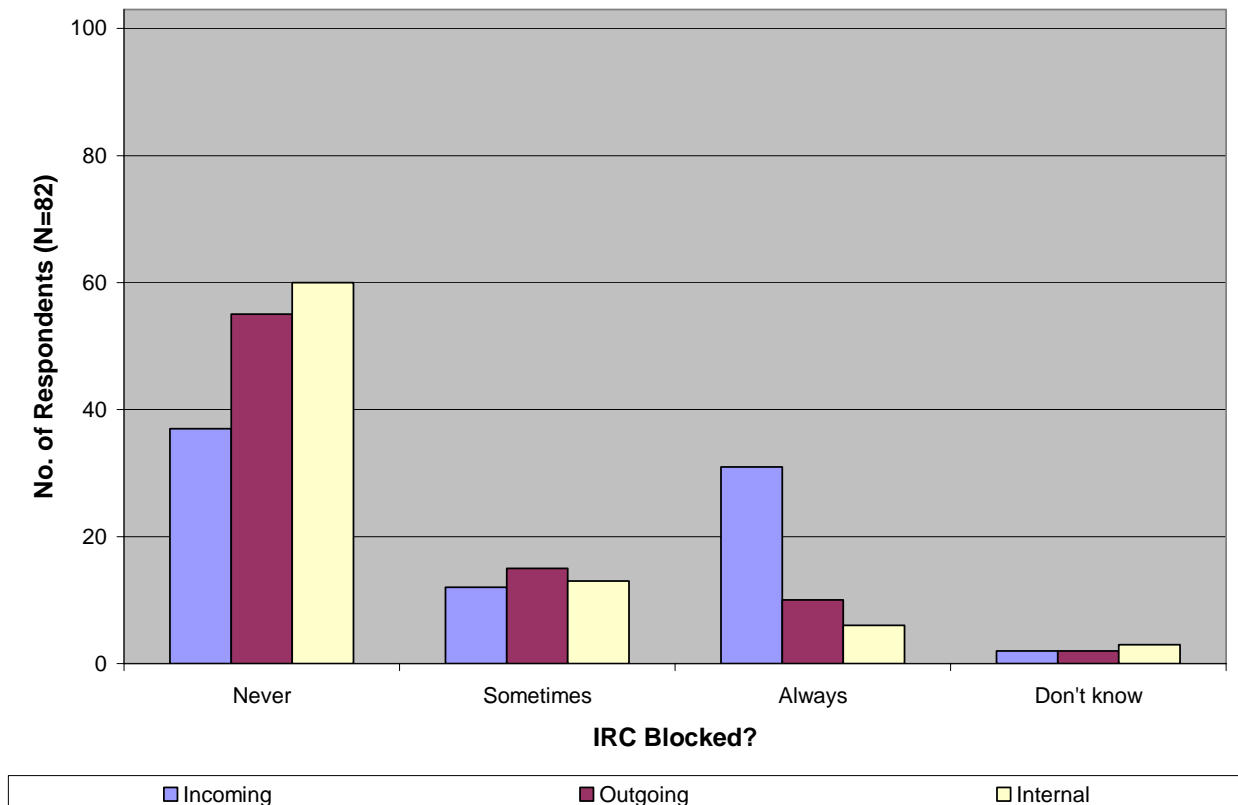
Never Sometimes Always or continually Do not know

IRC

11. Please indicate when you block, filter, or otherwise restrict the following services *completely within* (i.e they never leave) the residential computer network (choose all that apply):

Never Sometimes Always or continually Do not know

IRC



		Count	Percentage
Incoming	Never	37	45%
	Sometimes	12	15%
	Always	31	38%
	Unknown	2	2%
Outgoing	Never	55	67%
	Sometimes	15	18%
	Always	10	12%
	Unknown	2	2%
Internal	Never	60	73%
	Sometimes	13	16%
	Always	6	7%
	Unknown	3	4%

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

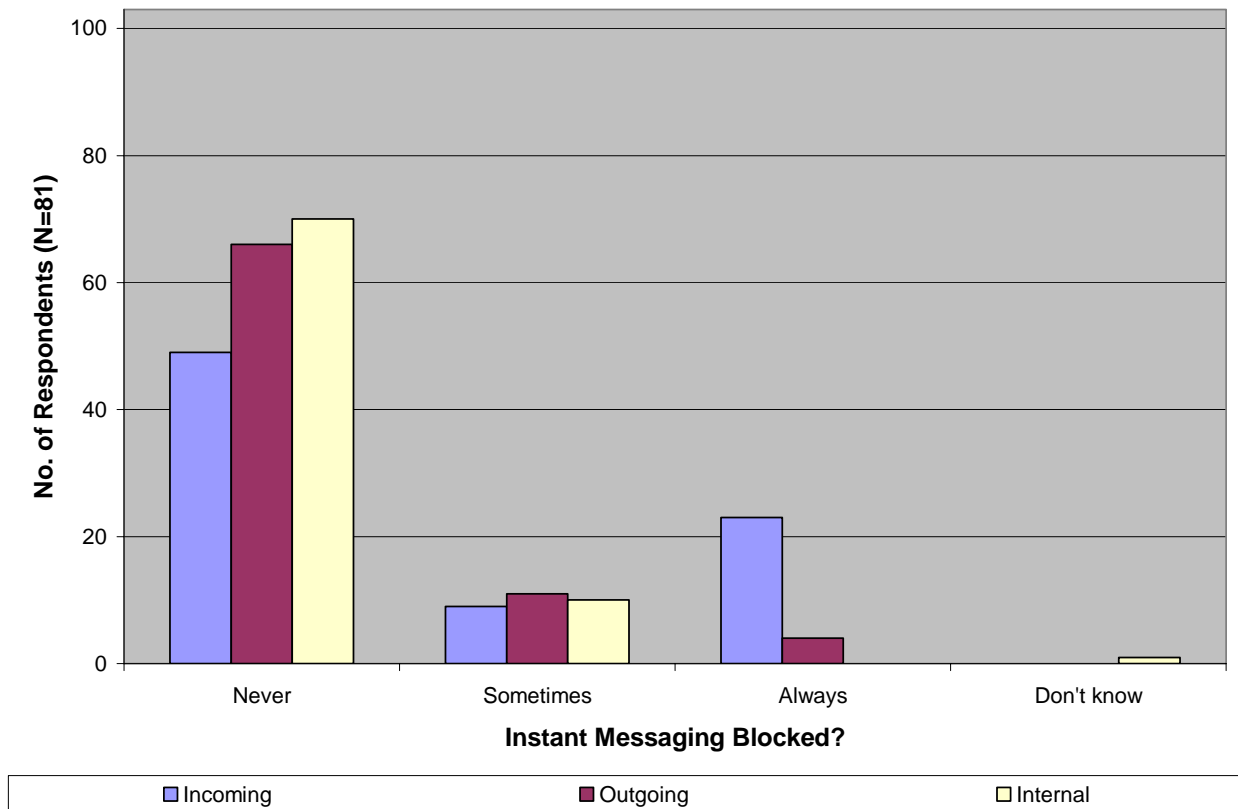
	Never	Sometimes	Always or continually	Do not know
Instant messaging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
Instant messaging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please indicate when you block, filter, or otherwise restrict the following services *completely within* (i.e they never leave) the residential computer network (choose all that apply):

Instant messaging	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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		Count	Percentage
Incoming	Never	49	60%
	Sometimes	9	11%
	Always	23	28%
	Unknown	0	0%
Outgoing	Never	66	81%
	Sometimes	11	14%
	Always	4	5%
	Unknown	0	0%
Internal	Never	70	86%
	Sometimes	10	12%
	Always	0	0%
	Unknown	1	1%

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

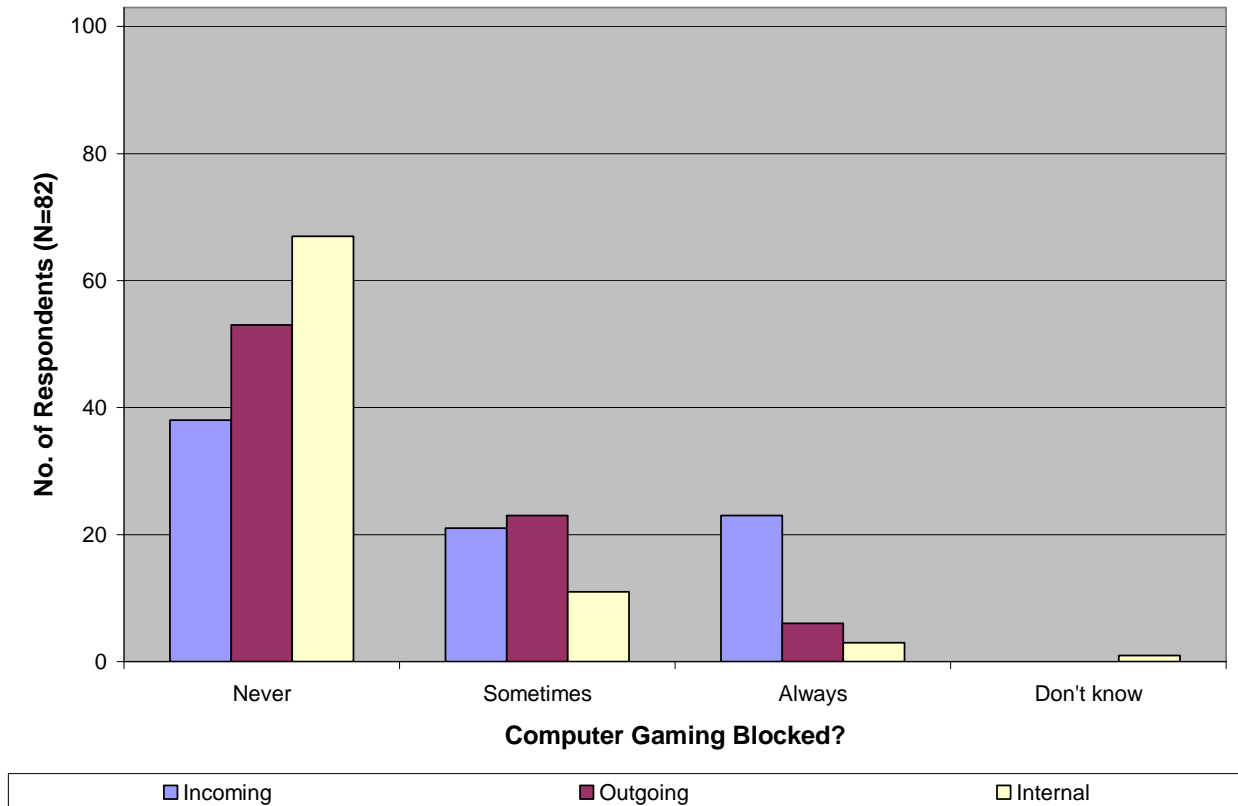
	Never	Sometimes	Always or continually	Do not know
Online computer gaming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
Online computer gaming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please indicate when you block, filter, or otherwise restrict the following services *completely within* (i.e they never leave) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
Online computer gaming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



		Count	Percentage
Incoming	Never	38	46%
	Sometimes	21	26%
	Always	23	28%
	Unknown	0	0%
Outgoing	Never	53	65%
	Sometimes	23	28%
	Always	6	7%
	Unknown	0	0%
Internal	Never	67	82%
	Sometimes	11	13%
	Always	3	4%
	Unknown	1	1%

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

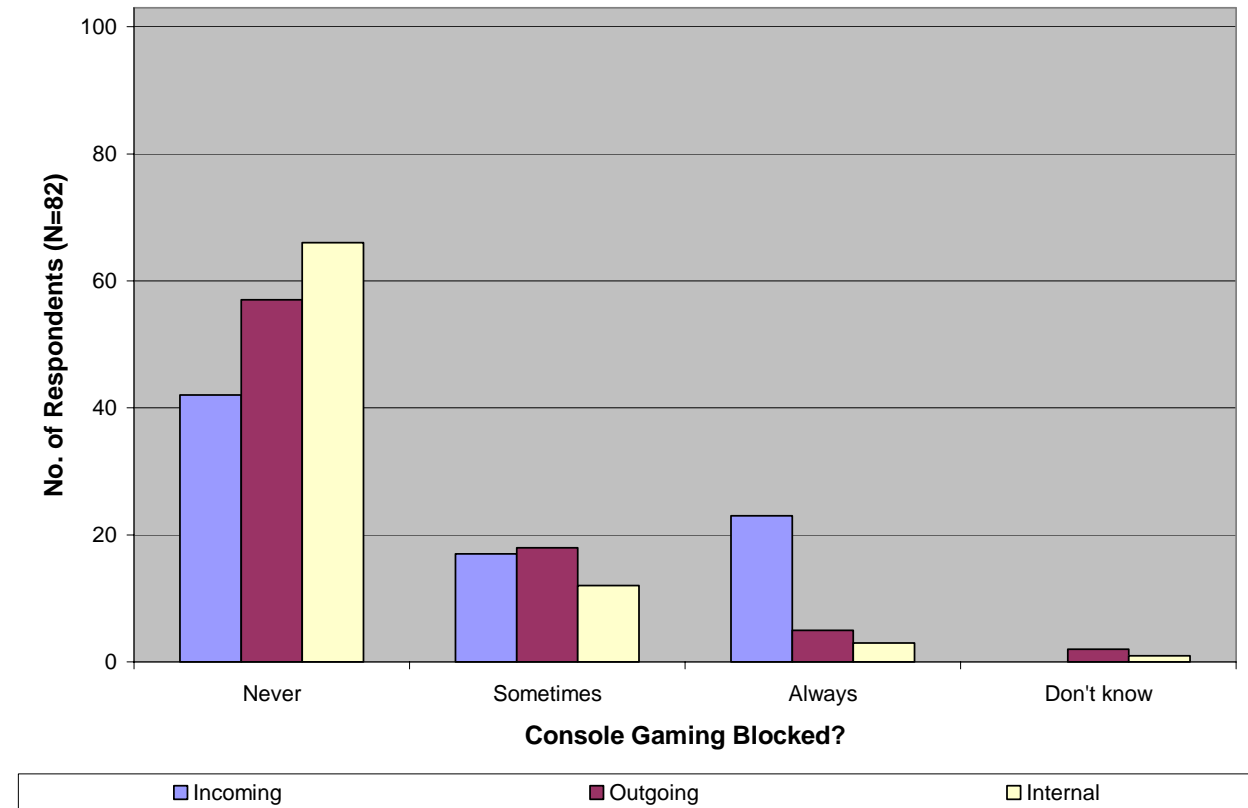
	Never	Sometimes	Always or continually	Do not know
Console gaming (X-Box Live, PS2, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
Console gaming (X-Box Live, PS2, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please indicate when you block, filter, or otherwise restrict the following services *completely within* (i.e they never leave) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
Console gaming (X-Box Live, PS2, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



		Count	Percentage
Incoming	Never	42	51%
	Sometimes	17	21%
	Always	23	28%
	Unknown	0	0%
Outgoing	Never	57	70%
	Sometimes	18	22%
	Always	5	6%
	Unknown	2	2%
Internal	Never	66	80%
	Sometimes	12	15%
	Always	3	4%
	Unknown	1	1%

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

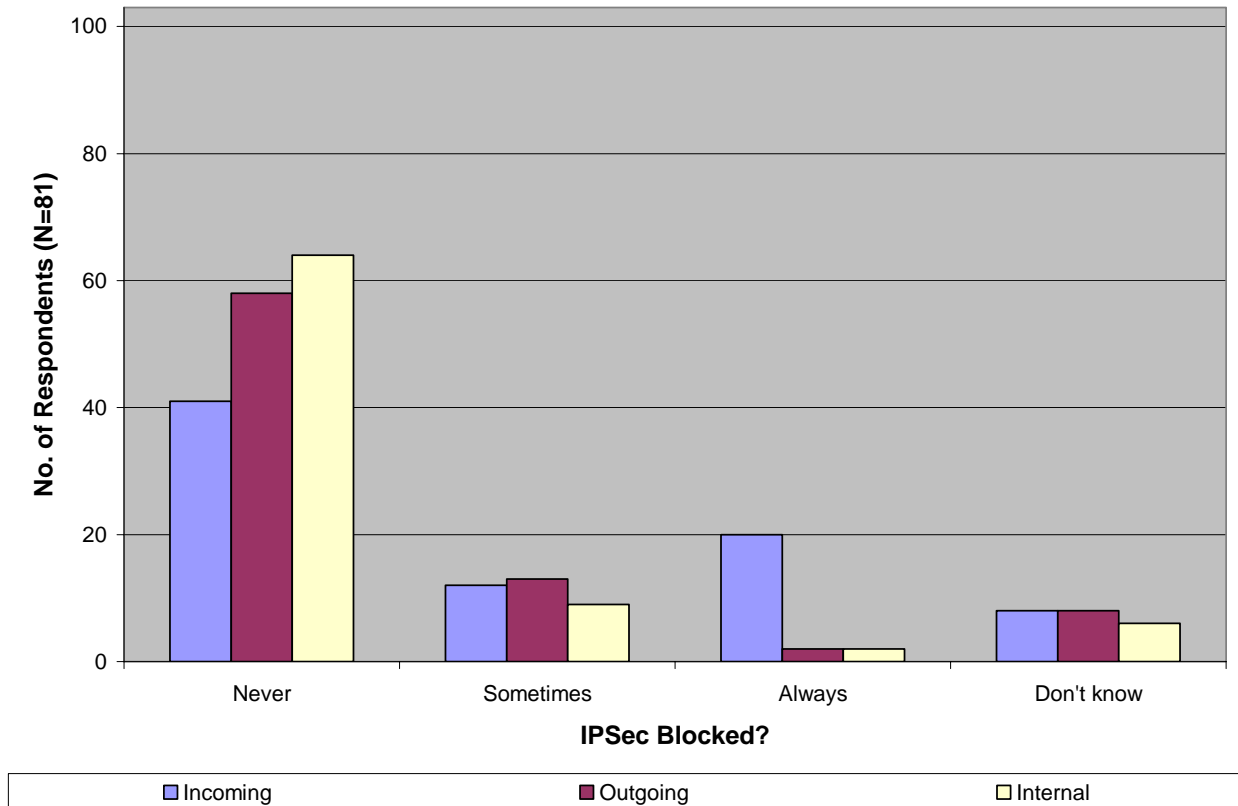
	Never	Sometimes	Always or continually	Do not know
IPSec (IP Security)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
IPSec (IP Security)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please indicate when you block, filter, or otherwise restrict the following services *completely within* (i.e they never leave) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
IPSec (IP Security)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



		Count	Percentage
Incoming	Never	41	51%
	Sometimes	12	15%
	Always	20	25%
	Unknown	8	10%
Outgoing	Never	58	72%
	Sometimes	13	16%
	Always	2	2%
	Unknown	8	10%
Internal	Never	64	79%
	Sometimes	9	11%
	Always	2	2%
	Unknown	6	7%

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

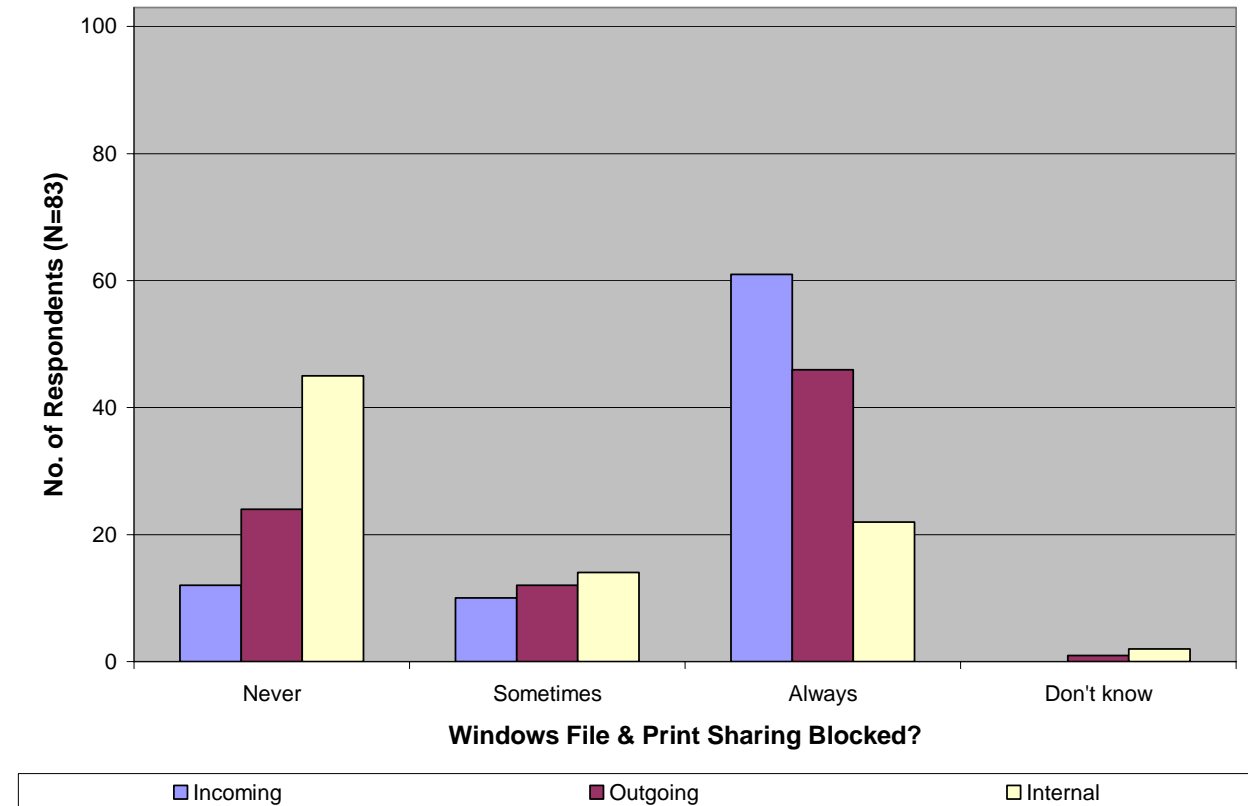
	Never	Sometimes	Always or continually	Do not know
Windows file and print sharing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
Windows file and print sharing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please indicate when you block, filter, or otherwise restrict the following services *completely within* (i.e they never leave) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
Windows file and print sharing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



		Count	Percentage
Incoming	Never	12	14%
	Sometimes	10	12%
	Always	61	73%
	Unknown	0	0%
Outgoing	Never	24	29%
	Sometimes	12	14%
	Always	46	55%
	Unknown	1	1%
Internal	Never	45	54%
	Sometimes	14	17%
	Always	22	27%
	Unknown	2	2%

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

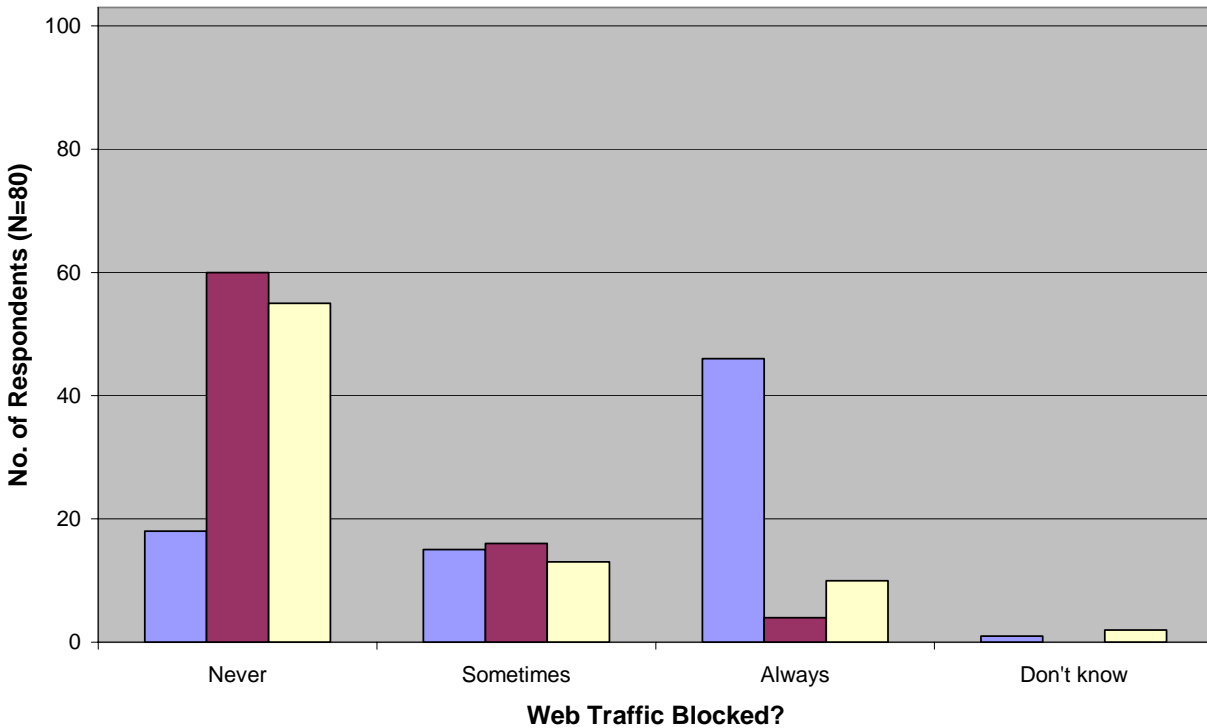
	Never	Sometimes	Always or continually	Do not know
Unauthorized resident-managed web servers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):

	Never	Sometimes	Always or continually	Do not know
Any non-institutional web sites	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please indicate when you block, filter, or otherwise restrict the following services *completely within* (i.e they never leave) the residential computer network (choose all that apply):

Unauthorized resident-managed web servers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Incoming to unauthorized resident-managed web servers
 Outgoing to any non-institutional web sites
 Internal traffic to unauthorized resident-managed web servers

		Count	Percentage
Incoming	Never	18	23%
	Sometimes	15	19%
	Always	46	58%
	Unknown	1	1%
Outgoing	Never	60	75%
	Sometimes	16	20%
	Always	4	5%
	Unknown	0	0%
Internal	Never	55	69%
	Sometimes	13	16%
	Always	10	13%
	Unknown	2	3%

9. Please indicate when you block, filter, or otherwise restrict the following services when they originate *external to* (i.e coming into) the residential computer network (choose all that apply):

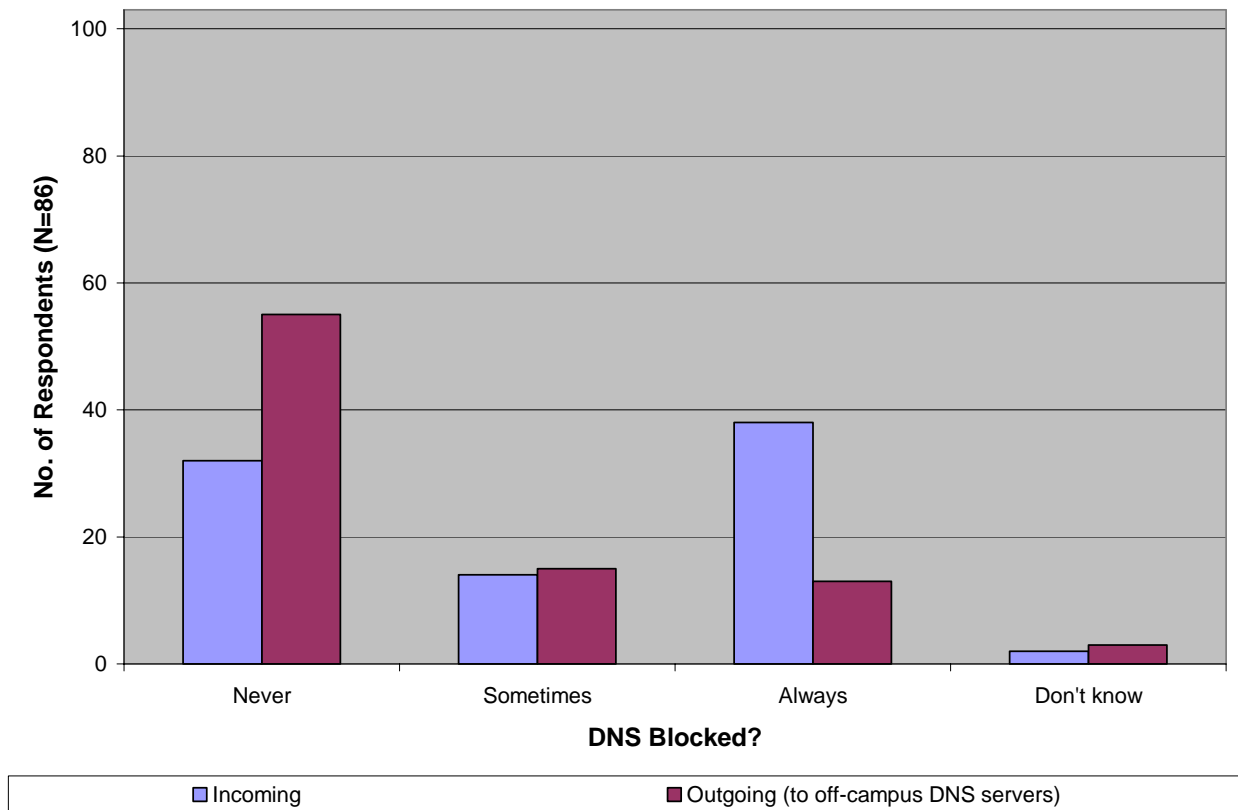
Never Sometimes Always or continually Do not know

DNS

10. Please indicate when you block, filter, or otherwise restrict the following services when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network (choose all that apply):

Never Sometimes Always or continually Do not know

Off campus DNS



		Count	Percentage
Incoming	Never	32	37%
	Sometimes	14	16%
	Always	38	44%
	Unknown	2	2%
Outgoing	Never	55	64%
	Sometimes	15	17%
	Always	13	15%
	Unknown	3	3%

9a. Are there any other services your institution blocks, filters, or otherwise restricts when they originate *external to* (i.e coming into) the residential computer network? (Choose one)



No



Yes - Please specify:

30 respondents replied "Yes" to this question. Their open-ended responses ranged widely, making classification difficult. Responses included:

- MSSQL (x3)
- SNMP (x3)
- "known exploits" (x3)
- ICMP (x2)
- SSH (x2)
- Telnet (x2)
- anonymous proxies
- NTD (Novell)
- port 135
- port 139
- port 25
- Portmapper (NFS)
- TFTP
- X

10a. Are there any other services your institution blocks, filters, or otherwise restricts when they originate *from* but with destinations *external to* (i.e. going out of) the residential computer network? (Choose one)

No

Yes - Please specify:

16 respondents replied "Yes" to this question. One respondent noted that "All traffic must be routed through our 3 webcache servers." Another respondent indicated that his or her institution only allows a "permitted list of services" to originate in the residential computer network (i.e. a whitelist vice a blacklist). Other open-ended responses to this question ranged widely, making classification difficult. Responses included:

- "known exploits" (x5)
- ICMP (x3)
- NNTP
- NTD (Novell)
- port 25
- port 135
- port 139
- Portmapper (NFS)
- Skype
- SMTP
- SNMP
- TFTP

11a. Are there any other services your institution blocks, filters, or otherwise restricts *completely within* (i.e they never leave) the residential computer network? (Choose one)

No

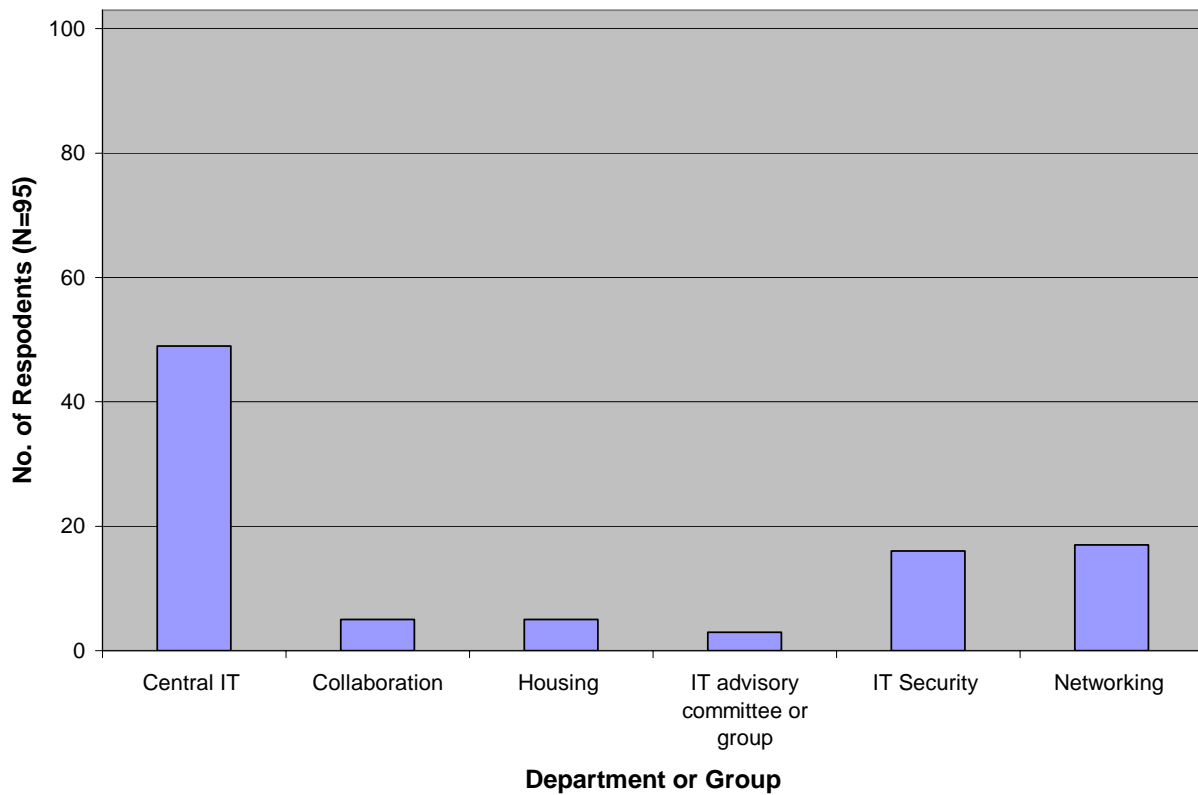
Yes - Please specify:

6 respondents replied "Yes" to this question. One respondent noted that "communication between wireless computers" is blocked within the residential computer network. Other responses to this question ranged widely, making classification difficult. Responses included:

- (non-institutional) DHCP (x2)
- (non-institutional) DNS
- ICMP (x2)
- SNMP
- TFTP
- Unauthorized devices using Spanning Tree

**12. Who primarily determines which network services, ports, or protocols are filtered, blocked, or otherwise restricted on the residential computer network?
(Choose one)**

- Central IT
- Housing
- IT Security
- Networking
- Institution IT advisory committee or group
- Other – Please explain:

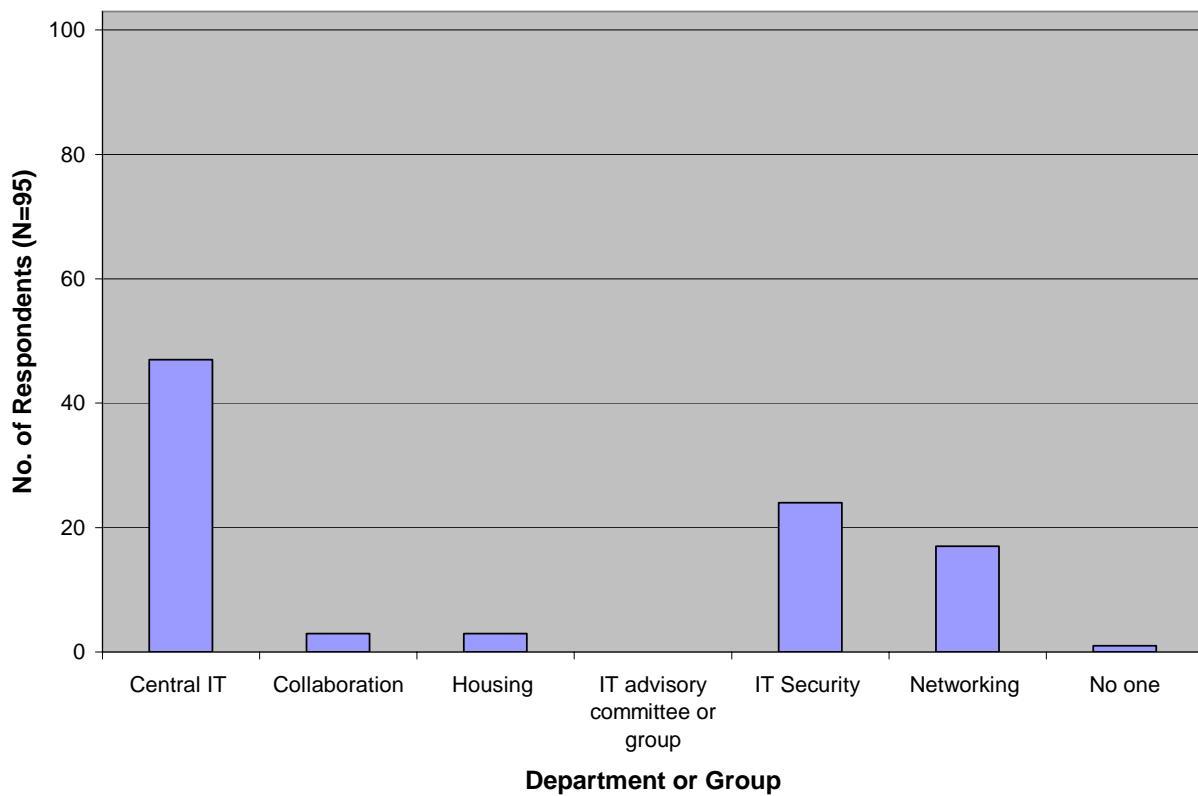


	Count	Percentage
Central IT	49	52%
Collaboration*	5	5%
Housing	5	5%
IT advisory committee or group	3	3%
IT security	16	17%
Networking	17	18%

* - This response option was added post-survey based on responses to the "Other - please explain" response option.

**13. In the event of an unexpected security incident, who has the primary authority to request the immediate filtering, blocking, or restricting of network services, ports, or protocols on the residential computer network?
(Choose one)**

- Central IT
- Housing
- IT Security
- Networking
- Institution IT advisory committee or group
- Other – Please explain:

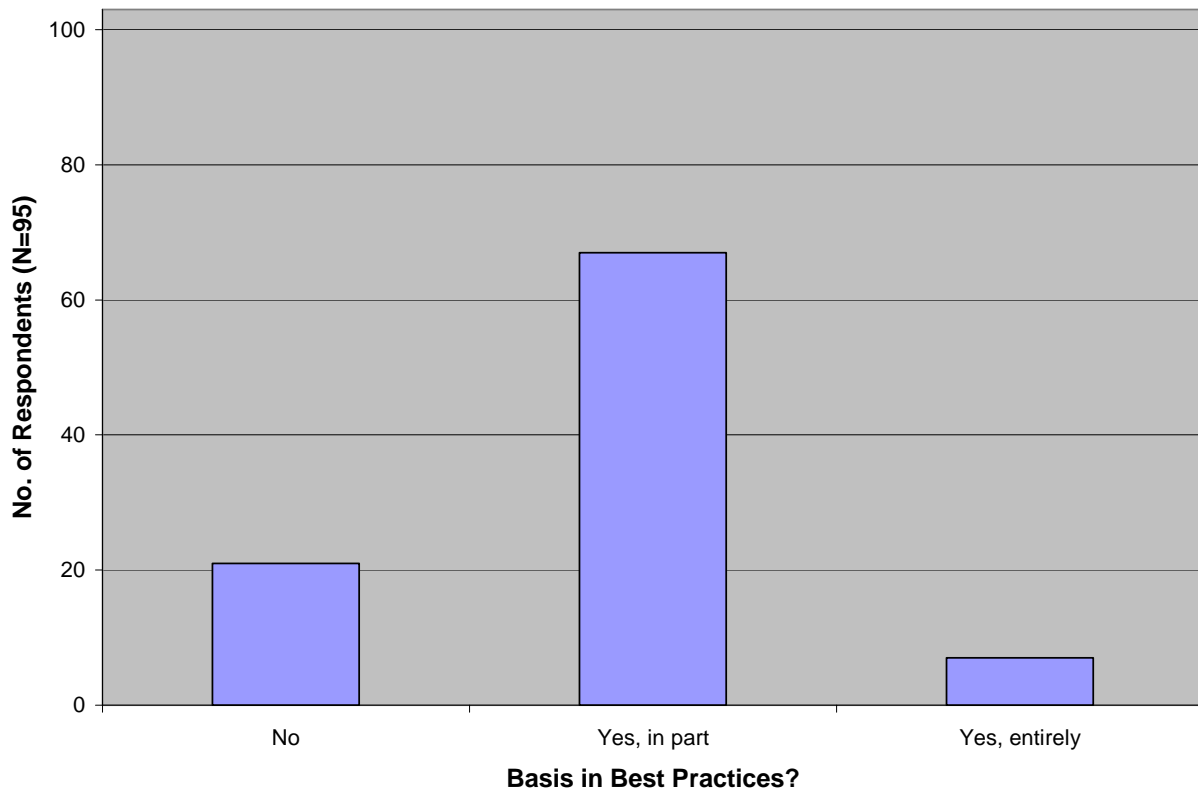


	Count	Percentage
Central IT	47	50%
Collaboration*	3	3%
Housing	3	3%
IT advisory committee or group	0	0%
IT security	24	25%
Networking	17	18%
No one*	1	1%

* - These response options were added post-survey based on responses to the "Other - please explain" response option.

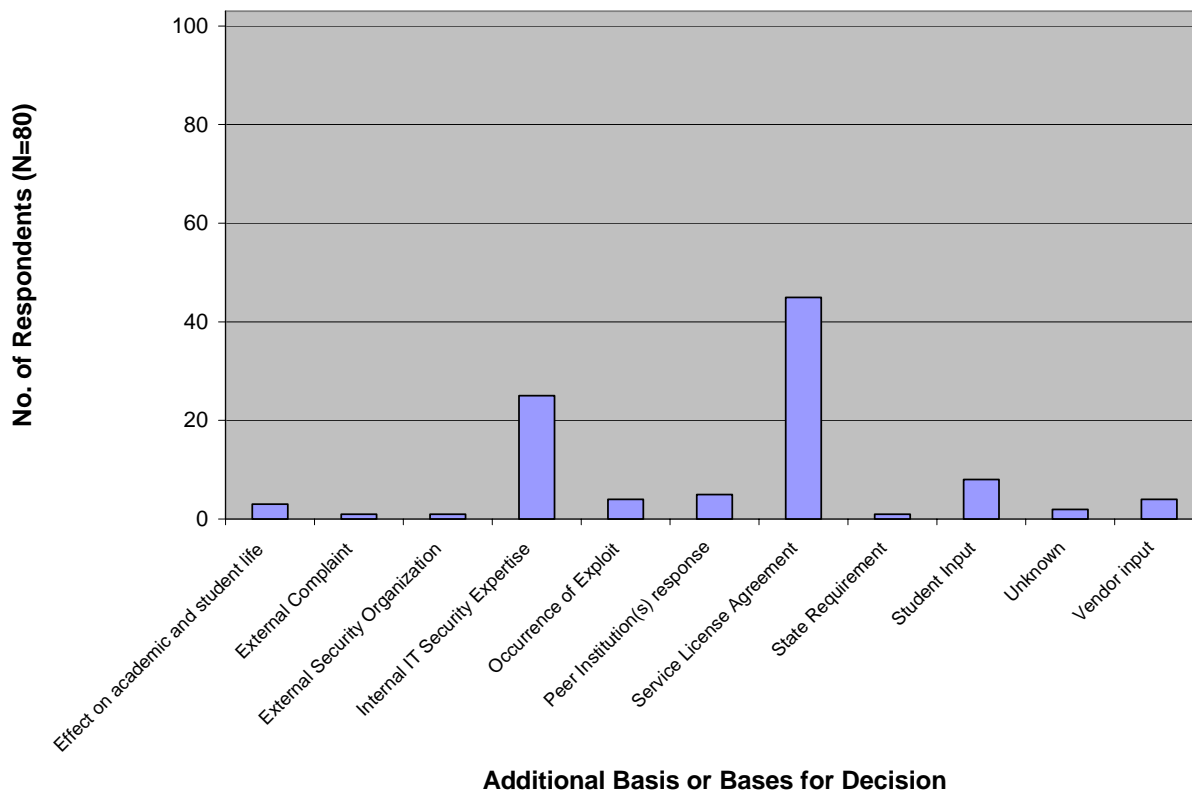
14. Does your institution base its decision to block, filter, or restrict network services, ports, or protocols based on published best practices from professional security groups such as the EDUCAUSE/Internet2 Computer and Network Security Task Force? (Choose one)

- No, we base our decision entirely on other factors
- Yes, we base our decision **in part** on published best practices
- Yes, we base our decision **entirely** on published best practices
- Other – Please explain:



	Count	Percentage
No	21	22%
Yes, in part	67	71%
Yes, entirely	7	7%

14a. You indicated that your institution bases its decision to block, filter or restrict network services, ports, or protocols completely or in part on factors other than published best practices. What are those factors?

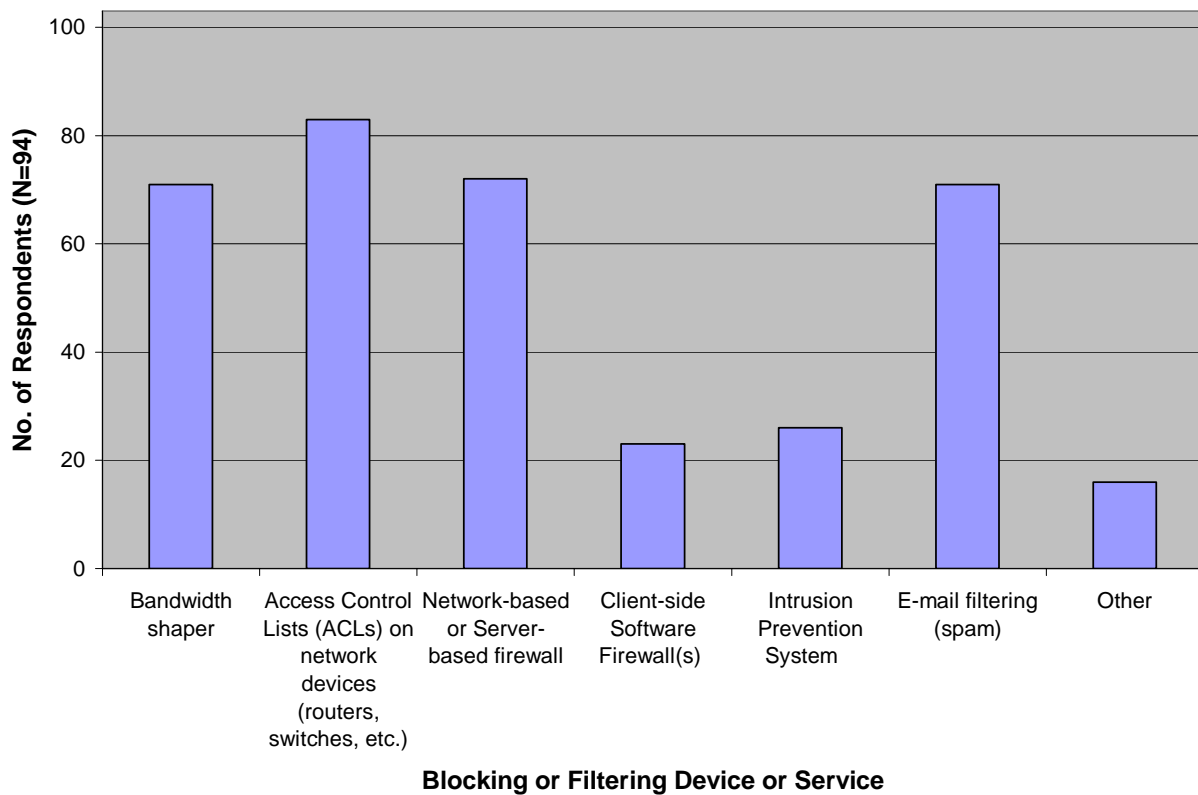


	Count	Proportion
Effect on academic and student life	3	5%
External Complaint	1	2%
External Security Organization	1	2%
Internal IT Security Expertise	25	41%
Occurrence of Exploit	4	7%
Peer Institution(s) response	5	8%
Service License Agreement	45	74%
State Requirement	1	2%
Student Input	8	13%
Unknown	2	3%
Vendor input	4	7%
None*	1	2%

* - Respondents who responded "Other - please explain:" to Question 14 were permitted to answer Question 14a regardless of their precise open-ended response to Question 14.

15. What does your institution use to block, filter, or restrict network services, ports, or protocols? (Choose all that apply)

- Bandwidth shaper
- Access Control Lists (ACLs) on network devices (routers, switches, etc.)
- Network-based or Server-based firewall
- Client-side Software Firewall(s)
- Intrusion Prevention System
- E-mail filtering (spam)
- Other – Please explain:



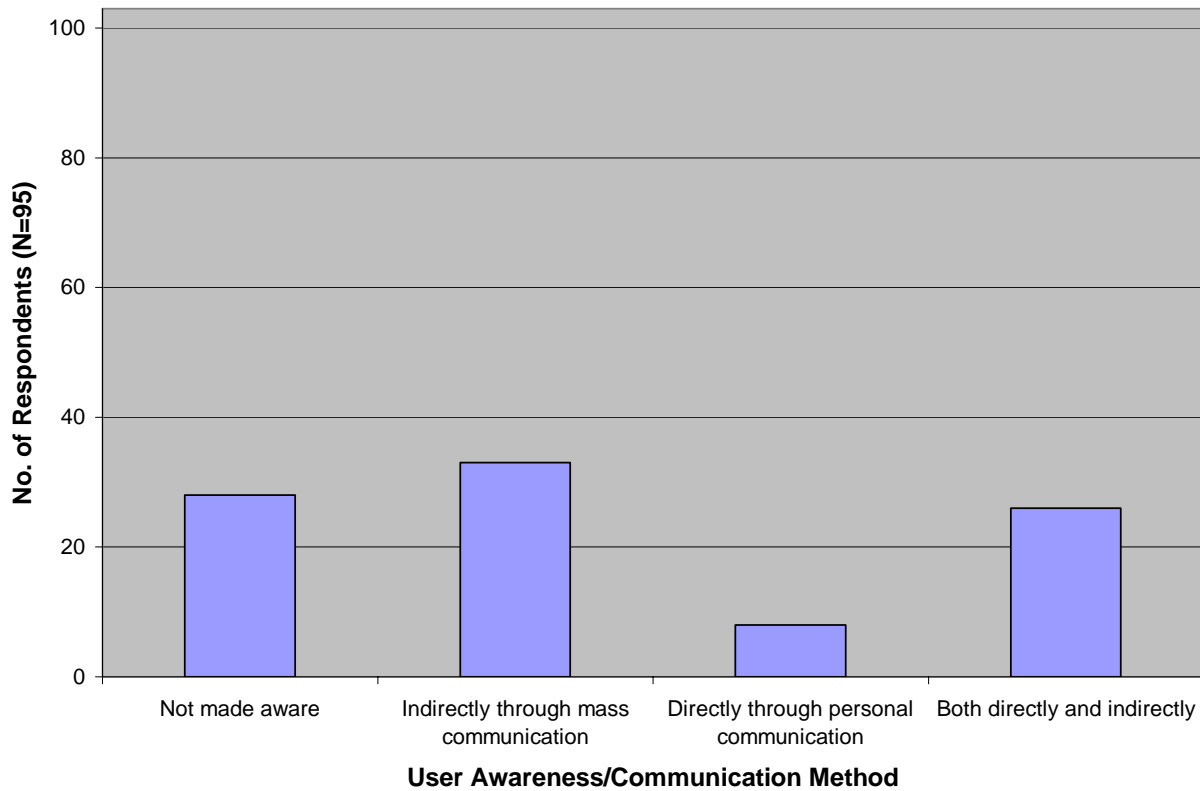
	Count	Proportion
Bandwidth shaper	71	75%
Access Control Lists (ACLs) on network devices (routers, switches, etc.)	83	87%
Network-based or Server-based firewall	72	76%
Client-side Software Firewall(s)	23	24%
Intrusion Prevention System	26	27%
E-mail filtering (spam)	71	75%
Other	16	17%

"Other" responses included:

- Audible Magic's CopySense (x2)
- Cisco Clean Access (x2)
- Website filter(s) (x2)
- bandwidth shaper in the future
- E-mail filtering (anti-virus)
- E-mail filtering (malware)
- IM filtering (spim/malware)
- Intrusion Detection System (IDS)
- NetReg
- nothing yet - plans for future
- policy-based routing
- Port-based firewall (at the switch level)
- QoS tagging
- spam scoring; filter email for viruses
- transparent proxy
- Web content filter
- Websense

16. How are users of the residential computer network made aware of network services, ports, or protocols that are filtered, blocked, or otherwise restricted on the residential network? (Choose one)

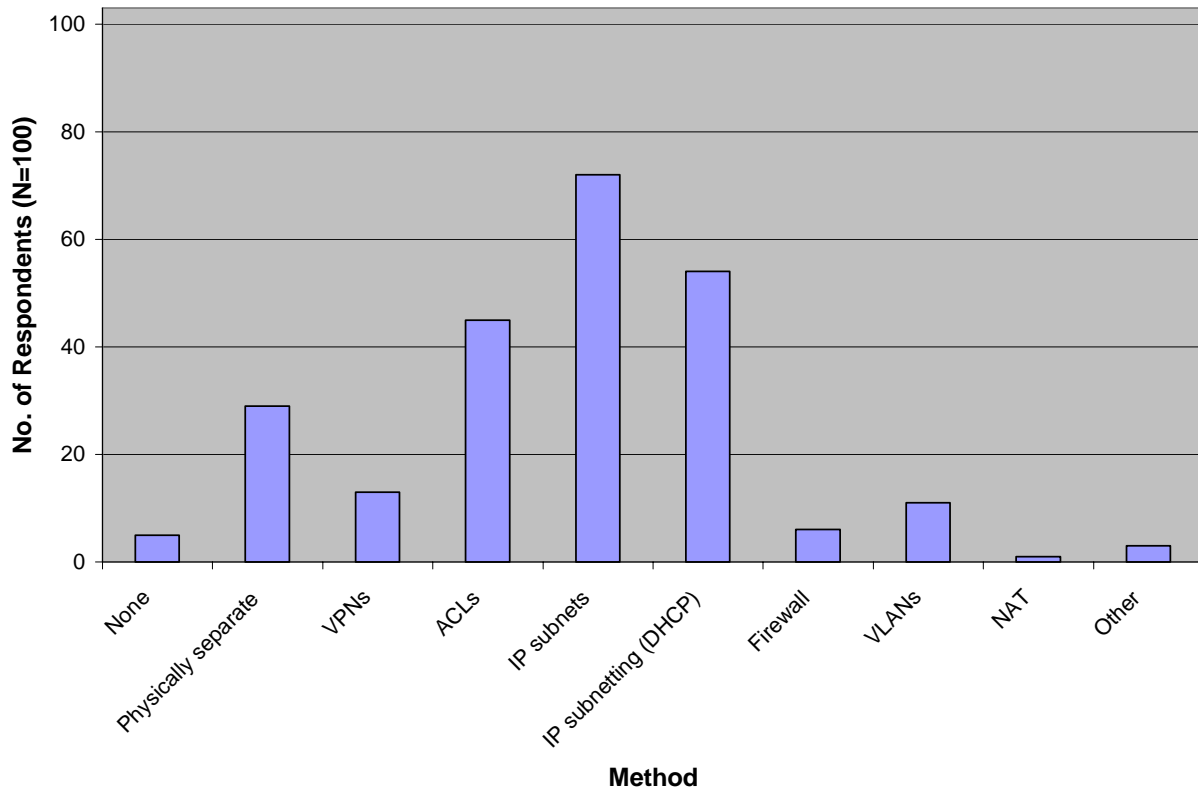
- Users are not made aware
- Users are indirectly made aware through mass communications (webpage, flyers, etc.)
- Users are directly made aware on an ongoing basis through direct or personal communications (e.g. email sent directly to them as changes occur)
- Users are made aware both directly and indirectly
- Other – Please explain:



	Count	Percentage
Users are not made aware	28	30%
Users are indirectly made aware through mass communications (webpage, flyers, etc.)	33	35%
Users are directly made aware on an ongoing basis through direct or personal communications (e.g. email sent directly to them as changes occur)	8	8%
Users are made aware both directly and indirectly	26	27%

17. What method is used to isolate or separate the residential computer network from other networks at your institution? (Choose all that apply)

- No method is used to isolate or separate the residential computer network from other networks at our institution
- The residential computer network is physically separate from other networks at our institution
- VPNs
- ACLs
- IP subnets
- IP subnetting (DHCP)
- Other - Please explain:



	Count	Proportion
No method is used to isolate or separate the residential computer network from other networks at our institution	5	5%
The residential computer network is physically separate from other networks at our institution	29	29%
VPNs	13	13%
ACLs	45	45%
IP subnets	72	71%
IP subnetting (DHCP)	54	54%
Firewall*	6	6%
VLANs*	11	11%
NAT*	1	1%
Other	3	3%

"Other" responses included:

- all residential network on Cisco Clean Access
- bandwidth & port accounting
- routed gateway

* - These response options were added post-survey based on responses to the "Other - please explain" response option.