# 2015 State of the Endpoint Report: User-Centric Risk

## Sponsored by Lumension

Independently conducted by Ponemon Institute LLC

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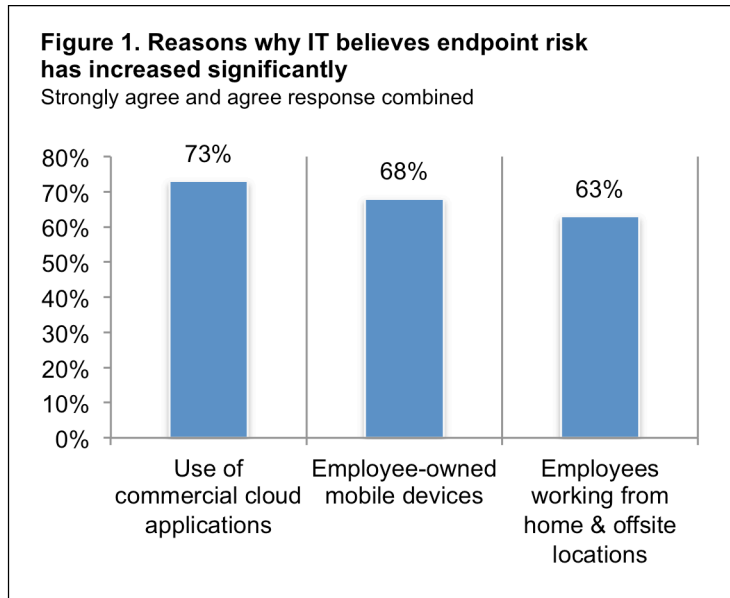# 2015 State of Endpoint Report:
## User-Centric Risk
Ponemon Institute, January 2015

## Part 1. Introduction

Ponemon Institute is pleased to present the results of the *2015 State of Endpoint Report: User-Centric Risk* study sponsored by Lumension. This annual study is conducted by Ponemon Institute to understand trends and changes in endpoint risk in organizations.  An endpoint can include servers, desktops, laptops, smartphones, and even printers, ATMs and PoS devices.

The biggest problem identified in this year's research is the negligent or careless employee with multiple mobile devices using commercial cloud apps and working outside the office.

We surveyed 703 US IT and IT security practitioners who are involved in endpoint security in their organizations. As shown in Figure 1, IT practitioners report use of commercial cloud applications (73 percent), BYOD (68 percent) and employees who operate from home offices and offsite locations (63 percent) have significantly increased endpoint risk. Sixty-eight percent of respondents say their IT department cannot keep up with employee demand for greater support and better mobile device connectivity.



**Figure 1. Reasons why IT believes endpoint risk has increased significantly**
Strongly agree and agree response combined

| | |
|---|---|
| Use of commercial cloud applications | 73% |
| Employee-owned mobile devices | 68% |
| Employees working from home & offsite locations | 63% |

**Following are some of the most salient findings from the study:**

**Negligent employees are seen as the greatest source of endpoint risk.** The primary reason for the difficulty in managing endpoint risk is negligent or careless employees who do not comply with security policies. This is followed by an increase in the number of personal devices connected to the network (BYOD), employees' use of commercial cloud applications in the workplace and the number of employees and others using multiple mobile devices in the workplace.

**This year, mobile endpoints have been the target of malware.** Seventy-one percent of respondents say in the past 24 months managing endpoint risk has become very difficult. In fact, 75 percent of respondents (an increase from 68 percent in last year's study) believe their mobile endpoints have been the target of malware over the past 12 months.

**In recognition of the growing risk, endpoint security is becoming a more important priority.** Sixty-eight percent of respondents say endpoint security is becoming a more important part of their organization's overall IT security strategy.

**Web-borne malware attacks are frequent in an organization's IT networks**. Eighty percent of respondents say web-borne malware attacks are seen frequently in their organization's IT

networks followed by advanced persistent threats (APT)/targeted attacks (65 percent) and rootkits (65 percent). The biggest increase is in zero day attacks, APTs and spear phishing.

**Certain applications increase vulnerabilities and IT risk**. Causing the most problems in managing endpoint risk are the following applications: Adobe (e.g. Acrobat, Flash Player, Reader) (62 percent of respondents), Oracle Java JRE (54 percent of respondents) and third-party cloud-based productivity apps (e.g. WinZip, VLC, VMware and VNC).

**Mobile devices, such as smart phones, have seen the greatest rise in potential IT security risk in the IT environment**. Eighty percent of respondents say smart phones are a concern followed by vulnerabilities in third party applications (69 percent), mobile remote employees (42 percent) and the negligent insider risk.

**Governance and control processes are the biggest gaps in stopping attacks on endpoints.** On average, 28 percent of attacks on an organization's endpoints cannot be realistically stopped with enabling technologies, processes and in-house expertise. Seventy percent of respondents agree that their organizations' endpoint security policies are difficult to enforce.

**How will organizations deal with increased endpoint risk? The research also reveals these three predictions for 2015:**

1. **Virtually all organizations will evolve toward a more "detect and respond" orientation from one that is focused on prevention.** In addition, according to 70 percent of respondents, their organizations are using or plan to use within the next two years the use of "big data" to enhance endpoint and database security.

2. **Threat intelligence increases in importance**. Sixty-four percent of respondents say they have added or plan to add a threat intelligence component to their companies' security stack.

3. **The endpoint becomes a security sensor**. In other words, where state or context data collected at the endpoint is used to determine if it has been or is being compromised.

## Part 2. Key findings

In this section, we provide an analysis of the key findings. Several figures show comparable results captured since 2010. The completed audited findings are presented in the appendix of this report. We have organized the report according to the following themes:

- The shift from endpoint risk to user centric risk
- Malware and other security compromises are getting worse
- How organizations are addressing endpoint risk
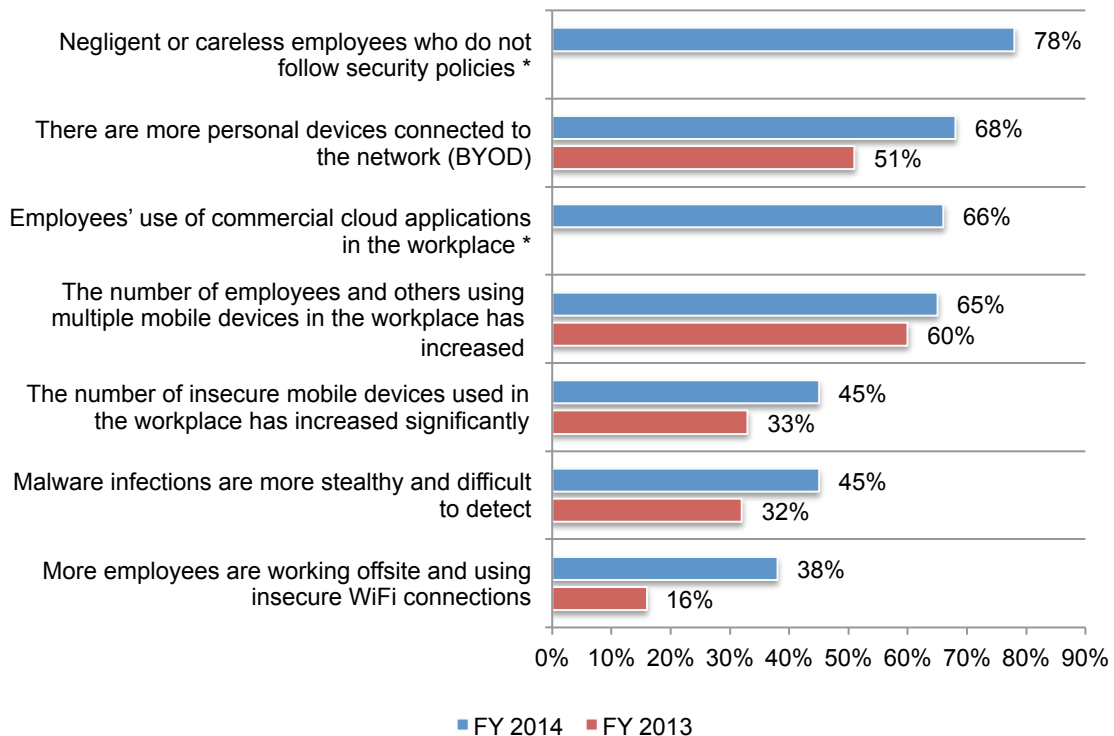- Predictions for 2015

**The shift from endpoint risk to user centric risk**

**Negligent employees (users) are seen as the greatest source of endpoint risk.** Figure 1 reveals certain threats to endpoint security are increasing significantly. Since 2013, the percentage of respondents who say the threat of employees working offsite and using insecure WiFi increased from 16 percent to 38 percent (22 percent increase) and more personal devices connected to the network (BYOD) increased from 51 percent to 68 percent (17 percent increase).

For the first time, we asked if negligent employees who do not follow security policies are a threat to endpoint security. Seventy-eight percent of respondents agree, making it the number one threat.

**Figure 1. What are the biggest threats to endpoint security in your organization?**
Five choices permitted



Negligent or careless employees who do not follow security policies * — 78%

There are more personal devices connected to the network (BYOD) — 68% / 51%

Employees' use of commercial cloud applications in the workplace * — 66%

The number of employees and others using multiple mobile devices in the workplace has increased — 65% / 60%

The number of insecure mobile devices used in the workplace has increased significantly — 45% / 33%

Malware infections are more stealthy and difficult to detect — 45% / 32%

More employees are working offsite and using insecure WiFi connections — 38% / 16%

■ FY 2014  ■ FY 2013

**\*** This response was not available in all fiscal years

**Malware targets mobile endpoints.** Seventy-one percent of respondents say in the past 24 months managing endpoint risk has become very difficult. In fact, 75 percent of respondents (an increase from 68 percent in last year's study) believe their mobile endpoints have been the target of malware over the past 12 months, as shown in Figure 2.

**Figure 2. Mobile endpoints have been the target of malware over the past 12 months**
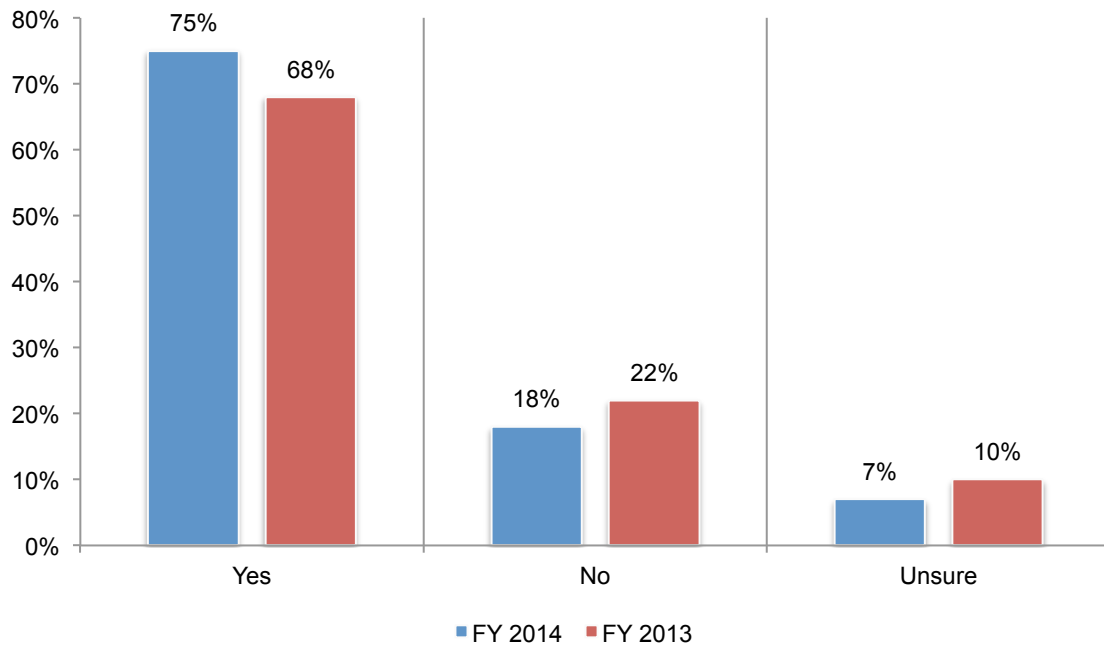
**Employees' use of mobile devices and commercial cloud increase endpoint risk significantly.** Respondents report use of commercial cloud applications (73 percent), BYOD (68 percent), and employees who operate from home offices and offsite locations (63 percent) have significantly increased endpoint risk, as shown in Figure 3.

In fact, 68 percent of respondents say their IT department cannot keep up with employee demand for greater support and better mobile device connectivity and 70 percent say their endpoint security policies are difficult to enforce. Only 33 percent of respondents agree that their approach to endpoint security takes into account the Internet of Things (IoT), which means that most companies represented in this study are not addressing the potential endpoint risk created by IoT.

**Figure 3. Factors contributing to endpoint security risk**
Strongly agree and agree response combined
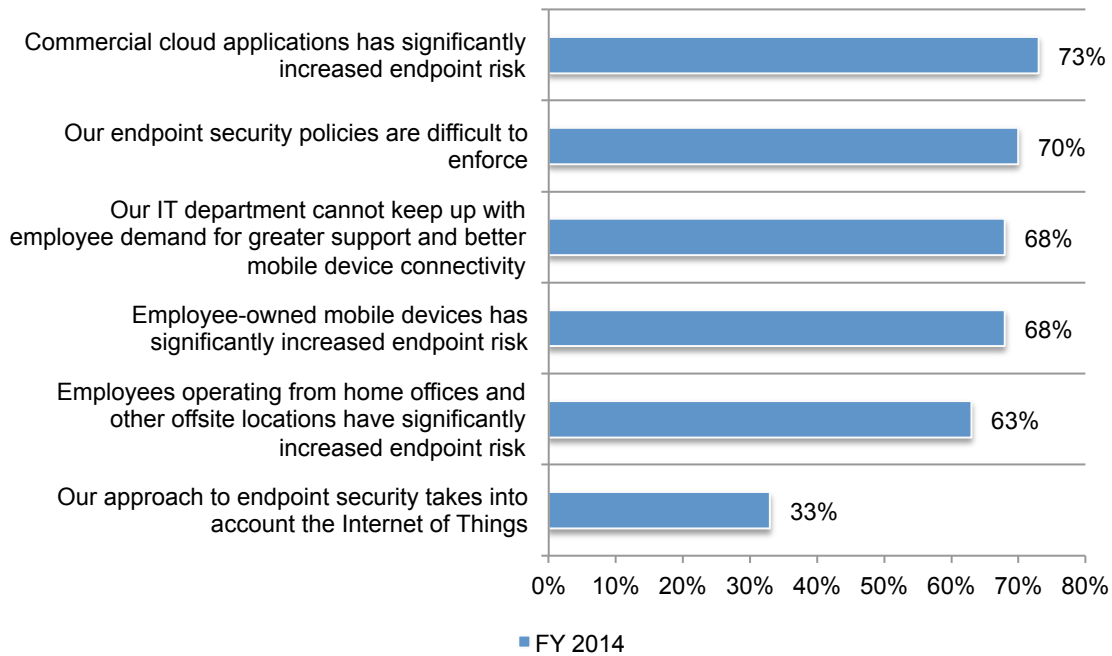
**Malware and other security compromises are getting worse**

**The rate of malware has steadily increased.** With the exception of 2010, a majority of respondents report that the frequency of malware incidents continues to increase or significantly increase since we have been conducting this study. As noted in Figure 4, this trend increases for four years and then decreases in 2014. The average frequency of responses is 54 percent.

**Figure 4. Changes in the frequency of malware incidents over five years**
Significantly increased and increased response combined
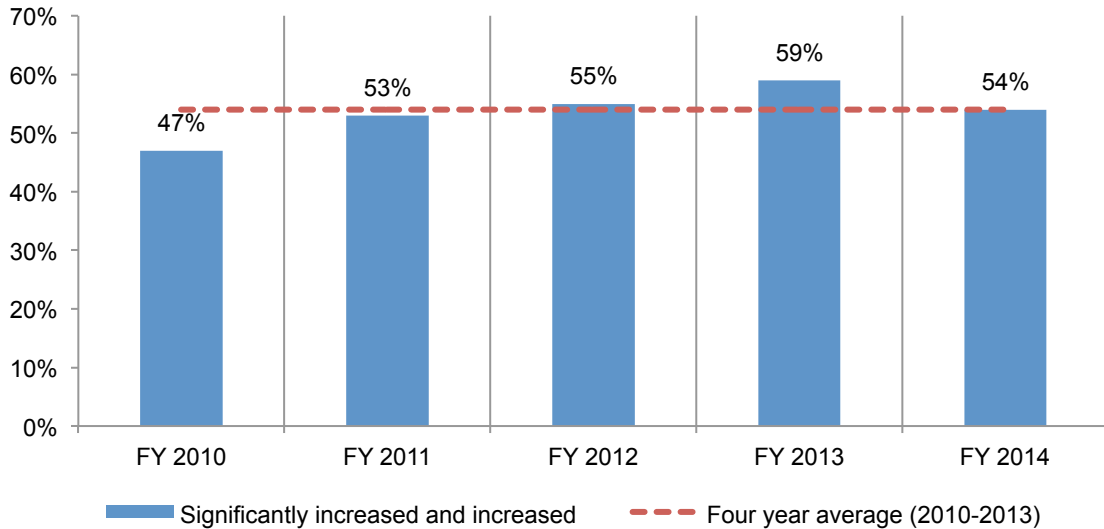


**Malware incidents are increasing in severity.** Figure 5 shows the change in the severity of malware experienced in 2014. As can be seen, half of respondents believe severity of malware infections have significantly increased over the past year. In sharp contrast, only 24 percent of respondents believe malware severity has decreased or stayed the same.

**Figure 5. Change in the severity of malware incidents over the past year**
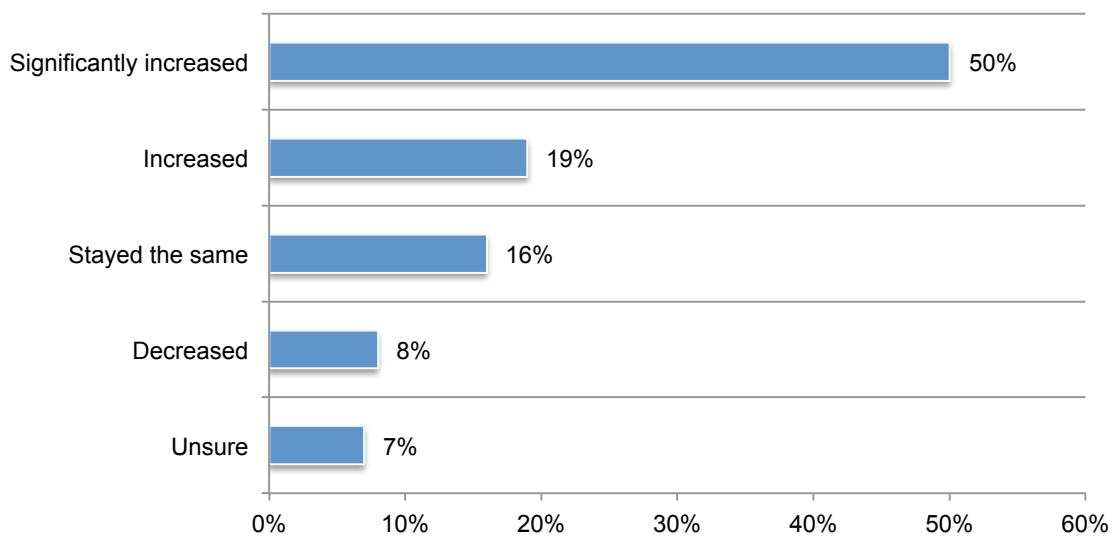
**Advanced persistent/targeted attacks increased dramatically.** While web-borne malware attacks are still considered the most frequent, 65 percent of respondents say they are experiencing more APTs/targeted attacks, an increase from the four-year average of 50 percent of respondents, according to Figure 6. Other significant increases include zero day attacks (an increase from 32 percent to 46 percent) and spear phishing (an increase from 48 percent to 55 percent). Botnets and spyware have decreased in in this year's study.

**Figure 6. Trends in the most frequent attacks against an organization's IT networks**
Most frequently cited incidents or compromises experienced by respondents
More than one response permitted



■ FY 2014    ■ Four year average (2010-2013)
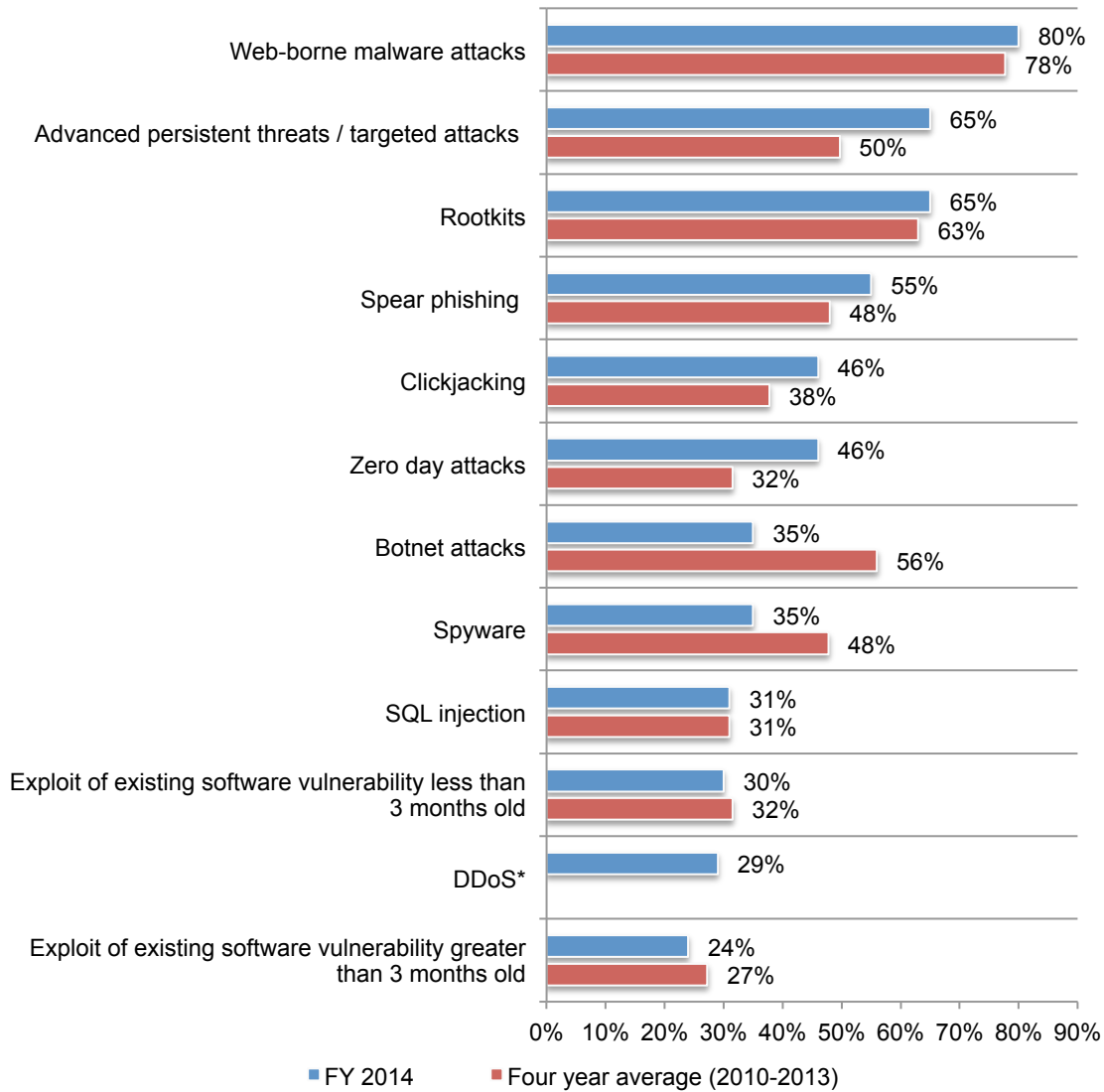
\* This response was not available in all fiscal years

**Applications increase endpoint risk**. Applications causing the most problems in minimizing malware risks are Adobe (e.g. Acrobat, Flash Player, Reader) (62 percent of respondents), Oracle Java JRE (54 percent of respondents) and cloud-based productivity apps (e.g. WinZip, VLC, VMware and VNC). As shown in Figure 7, the risk of Oracle Java JRE and uncontrolled use of private cloud storage has increased significantly. In contrast, other third party apps and Microsoft OS/Applications have decreased in perceived malware risk.

**Figure 7. Trends in applications that increase IT risk**
Applications that respondents believe are prone to malware infection
Five responses permitted
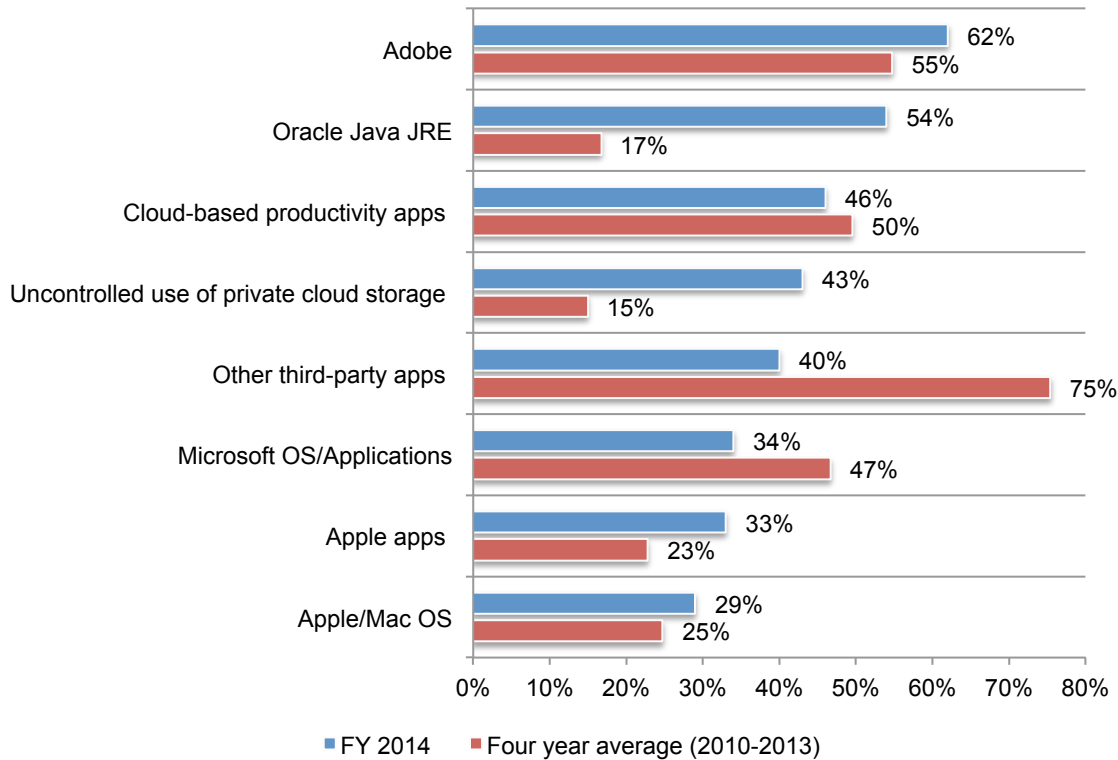
**Mobile devices such as smart phones have seen the greatest rise in potential IT security risk in the IT environment**. Figure 8 reveals that 80 percent of respondents say smart phones are a concern followed by vulnerabilities in commercial third party applications (69 percent), mobile remote employees (42 percent) and the negligent insider risk.

**Figure 8. Trends in potential security risks within the IT environment**
Areas and issues that cause significant IT security risks according to respondents
Five responses permitted
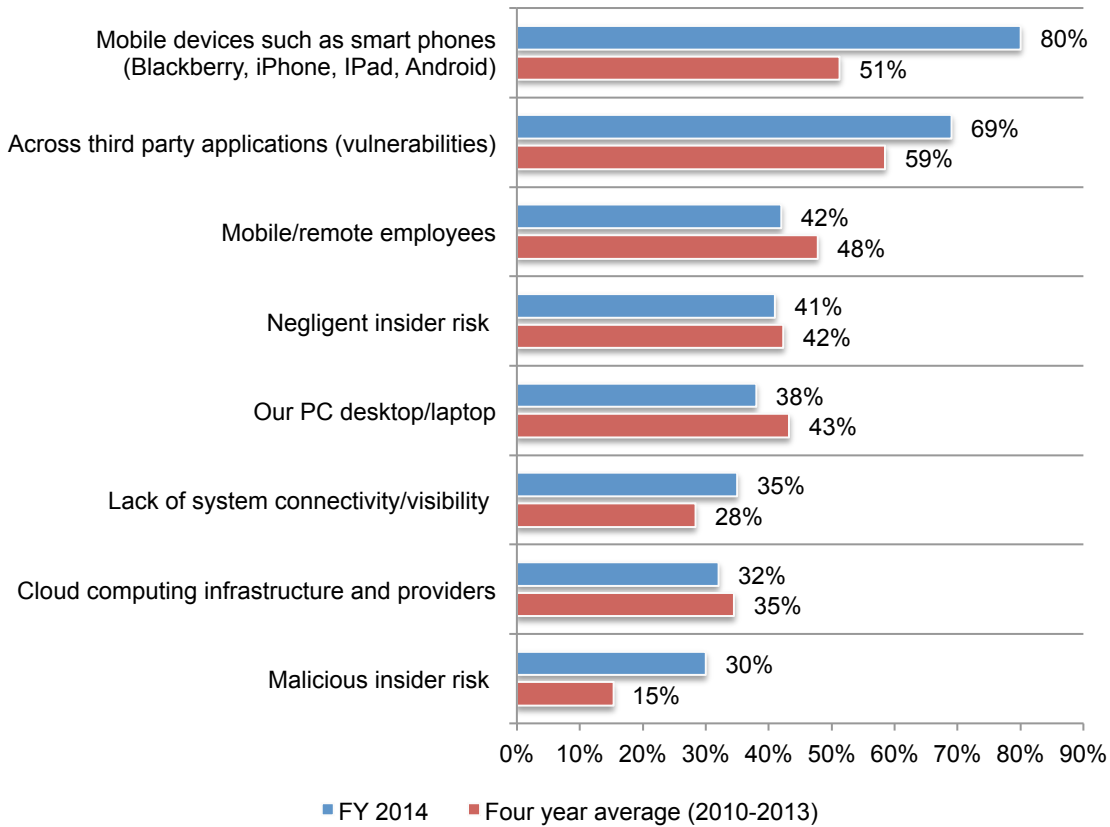
**How organizations are addressing endpoint risk**

**Endpoint security is becoming a more important priority.** Sixty-eight percent of respondents say endpoint security is becoming a more important part of their organization's overall IT security strategy.

The primary reasons are the increased use and variety of mobile devices connected to the network (67 percent of respondents) followed by uncertainty about how new mobile technologies and the Internet of Things affect security (49 percent of respondents) and an increase in the mobile workforce, as shown in Figure 9.

If endpoint security is less important, it is due to a change in management direction and philosophy and change in endpoint security risk profile. Almost half (49 percent) of respondents are concerned about the Internet of Things. As discussed previously 33 percent of respondents are concerned that their approach to endpoint security does not take into account the Internet of Things.

**Figure 9. Why has endpoint security become more important over the past 24 months?**
More than one response permitted
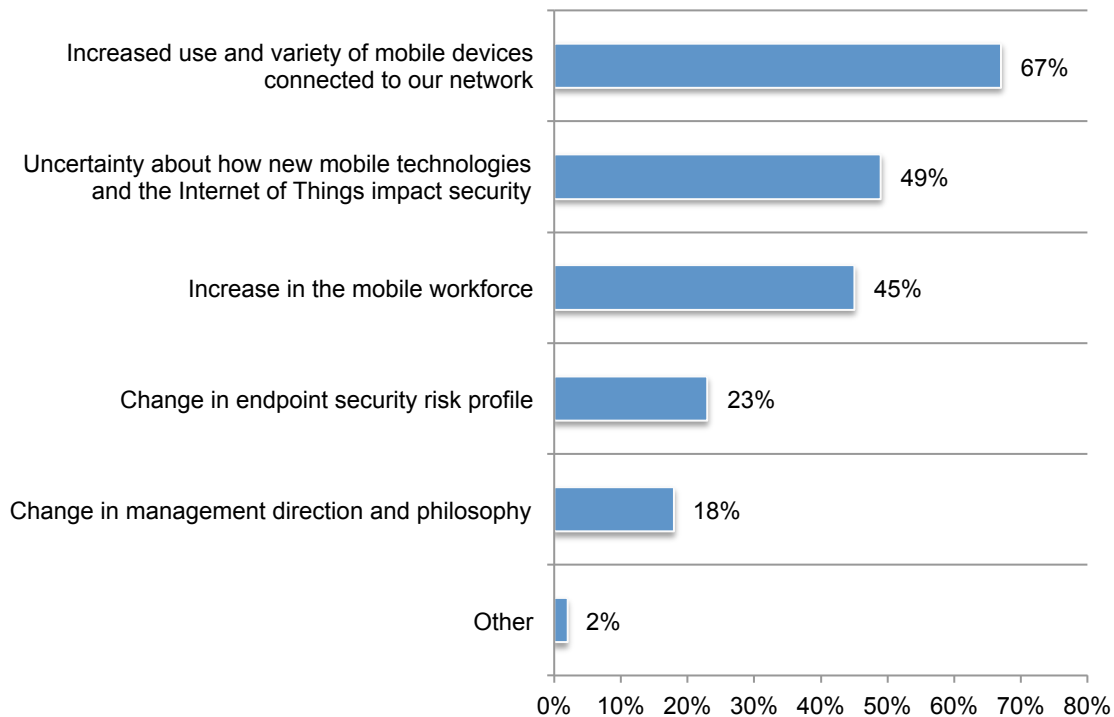
**Growth in IT security remains constant.** Forty-five percent of respondents say their organization's IT security budget will significantly increase (12 percent) or increase (33 percent). This is similar to last year when 43 percent of respondents believed their organizations would significantly increase (10 percent) and increase (33 percent).

While companies are making endpoint security a higher priority, Figure 10 reveals that the IT security budget allocation is expected to change next year. Network security is expected to decline from 40 percent to 32 percent. Data security and application security are expected to receive more funding. Despite the fact that employee negligence is recognized as a serious threat, only 11 percent of the budget is allocated to dealing with malicious or negligence insiders or third parties.

In another finding, only 34 percent of respondents say they have ample resources to minimize IT endpoint risk throughout their organization. This is consistent with prior studies.

**Figure 10. Spending earmarked for IT security risks**
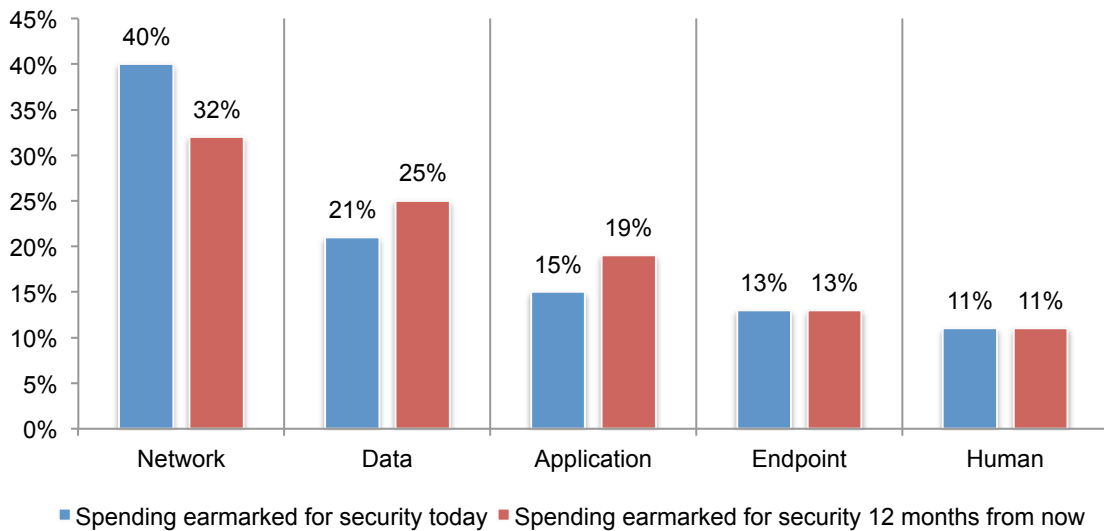


■ Spending earmarked for security today   ■ Spending earmarked for security 12 months from now

**Governance and control processes are the biggest gaps in stopping attacks on endpoints.**
On average, respondents believe 72 percent of attacks on an organization's endpoints can be realistically stopped with enabling technologies, processes and in-house expertise.

According to Figure 11, the biggest gap in being able to mitigate these attacks is a lack of governance and control processes, which would include training and awareness programs for employees and enforcement of endpoint security policies. Seventy percent of respondents agree that their organizations' endpoint security policies are difficult to enforce.

**Figure 11. The one biggest gap in the ability to stop attacks to endpoints**
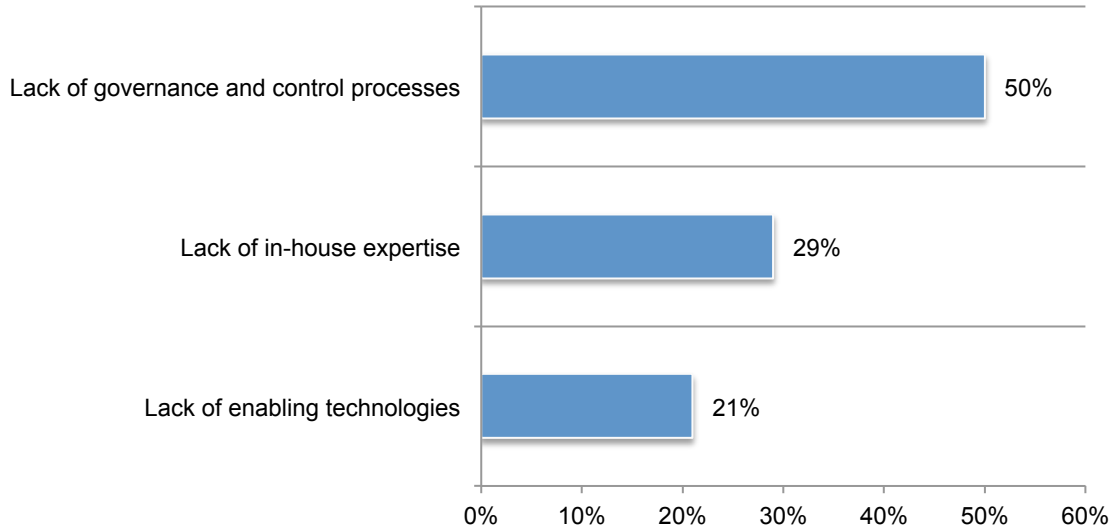
**Predictions for the forthcoming year**

**More risk ahead because of the continued growth in the use of commercial cloud applications.** More employees and other insiders will continue to increase their use of commercial cloud computing services will gain in use (71 percent of respondents), as shown in Figure 12.  However, growth in BYOD is expected to flatten. Last year, 79 percent of respondents believed there would be a substantial increase or increase in employee-owned devices in the workplace. This decreased to 59 percent of respondents in this year's study. Only 21 percent of respondents believe company assigned mobile devices will increase.

**Figure 12. The change in technologies over the next 12 to 24 months**
Substantial increase and increase response combined



* This response was not available in all fiscal years
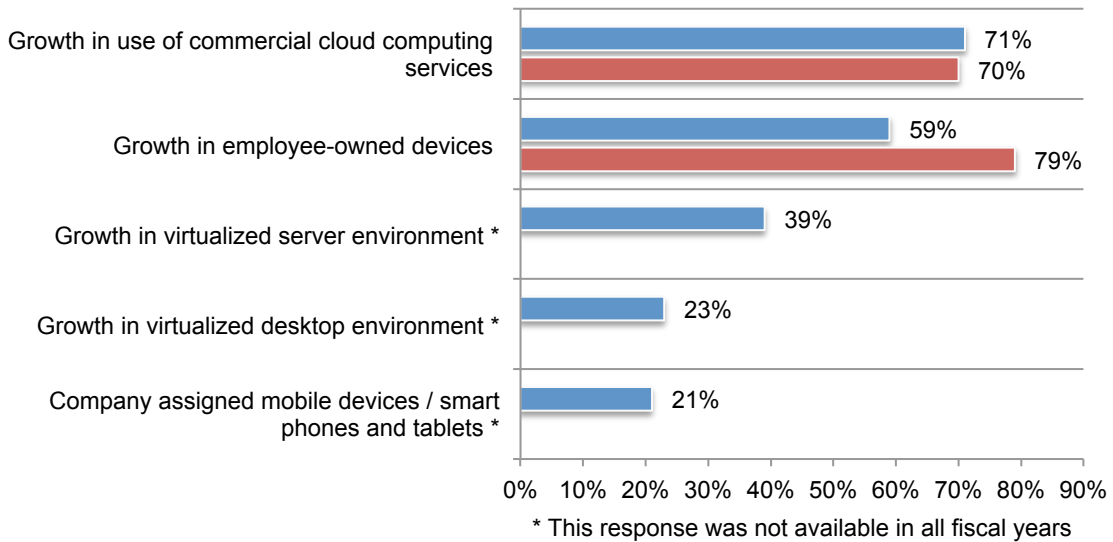
■ FY 2014    ■ FY 2013

**What trends will organizations deploy to deal with endpoint risk?** Virtually all organizations (95 percent of respondents) will evolve toward a more "detect and respond" orientation from one that is focused on prevention. Seventy percent of respondents say their organizations are using or planning to use in two years or more the use of "big data" to enhance endpoint security, as shown in Figure 13. Sixty-four percent of respondents say they have added or plan to add a threat intelligence component to its security stack.

**Figure 13. Use of threat intelligence, detect and respond and big data over the next 24 months or longer**



_Legend: Threat Intelligence, Detect and respond, Big data_

| Category | Threat Intelligence | Detect and respond | Big data |
|---|---|---|---|
| Yes, doing it now | 33% | 44% | 11% |
| Yes, planning to do so in the next 24 months | 22% | 30% | 41% |
| Yes, planning to do so more than 24 months from now | 9% | 21% | 18% |
| No | 36% | 5% | 30% |
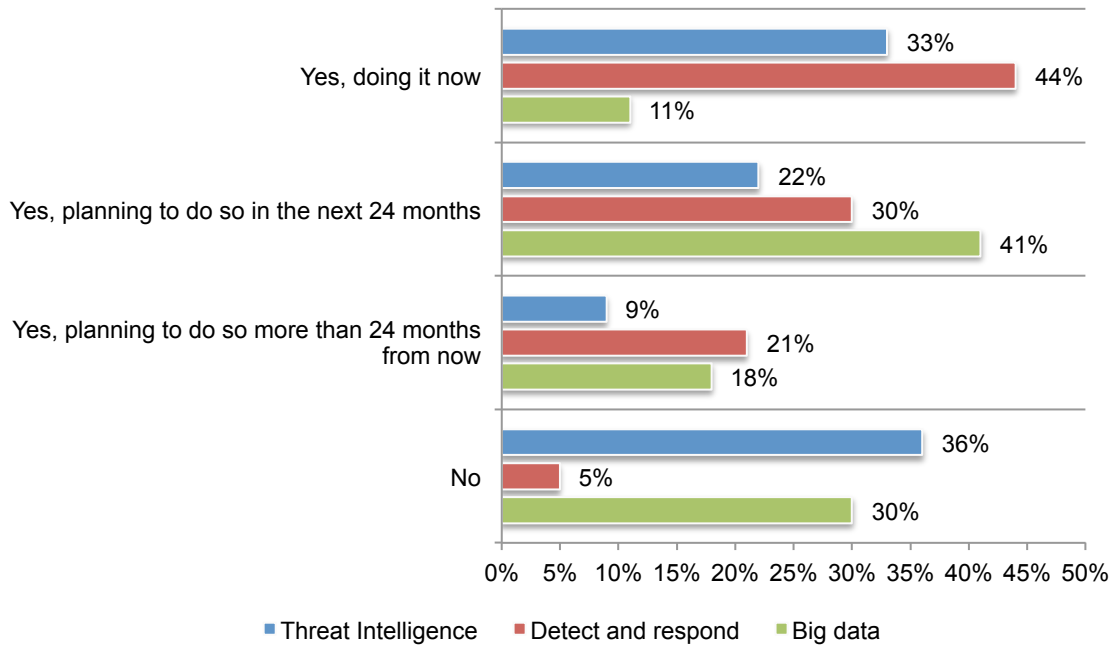
Another popular trend is the notion of the endpoint as a security sensor. In other words, where state or context data collected at the endpoint is used to determine if it has been or is being compromised. Figure 14 reveals that 46 percent or respondents say this is something their organizations are doing it now or are planning to introduce (19 percent + 18 percent + 9 percent).

Of lesser importance is the need to develop an offensive security capability (i.e. discover who is behind an attack and then counterattack). Fifty percent of respondents are pursuing now or planning to pursue offensive security capability. Forty-five percent say their organizations are currently using or planning to use System Center Configuration Manager (SCCM).[1] In another finding, 43 percent of respondents say their organization has updated their security policies and tactical plans to keep pace with the emergence of destructive malware such as CryptoLocker and Shamoon.

**Figure 14. Use of endpoint device as security sensor, SCCM and offensive security tactics over the next 24 months or more**



| | Security sensor | SCCM | Offensive security |
|---|---|---|---|
| Yes, doing it now | 19% | 6% | 9% |
| Yes, planning to do so in the next 24 months | 18% | 21% | 18% |
| Yes, planning to do so more than 24 months from now | 9% | 18% | 23% |
| No | 45% | 51% | 50% |
| Never heard of it | 9% | 4% | |

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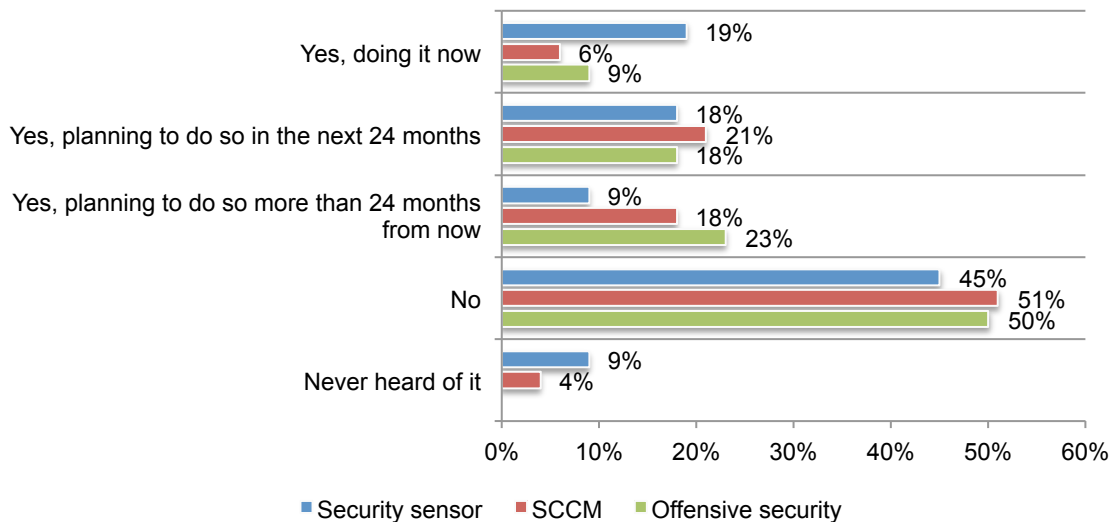
[1] Officially called System Center Configuration Manager, or simply ConfigMgr, SCCM is a systems management software product by Microsoft for managing large groups of computers running Windows, Windows Embedded, Mac OS X, Linux or UNIX, as well as various mobile operating systems such as Windows Phone, Symbian, iOS and Android. SCCM provides remote control, patch management, software distribution, operating system deployment, network access protection and hardware and software inventory.

**Part 3. Methods**

A sampling frame composed of 18,664 IT and IT security practitioners located in the United States and are involved in endpoint security were selected for participation in this survey. As shown in the Table 1, 902 respondents completed the survey. Screening removed 199 surveys. The final sample was 703 surveys (or a 3.8 percent response rate).

| Table 1. Sample response | Freq | Pct% |
|---|---|---|
| Total sampling frame | 18,664 | 100.0% |
| Total returns | 902 | 4.8% |
| Rejected and screened surveys | 199 | 1.1% |
| Final sample | 703 | 3.8% |

Pie chart 1 reports the current position or organizational level of respondents. By design, 58 percent of respondents reported their current position is at or above the supervisory level.

**Pie Chart 1. Current position or organizational level**
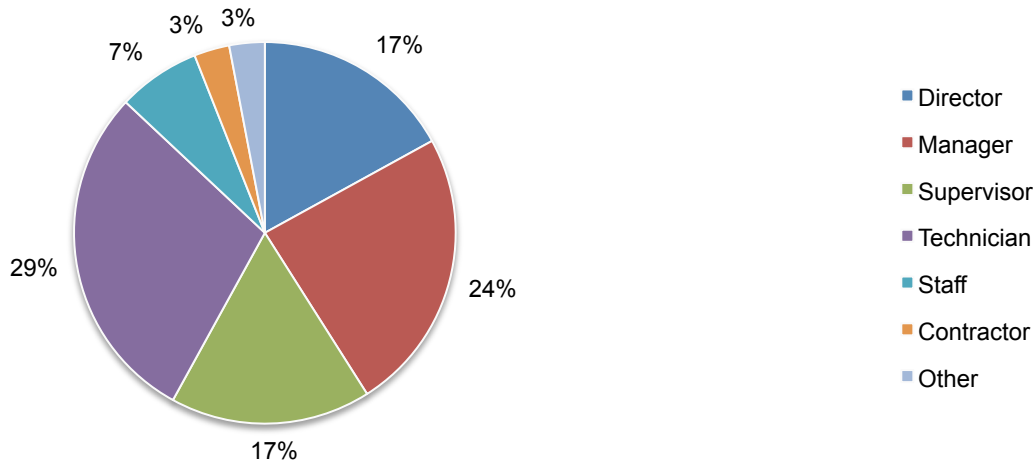


According to Pie Chart 2, more than half of the respondents (53 percent) report to the chief information officer. Another 25 percent responded they report to the chief information security officer.

**Pie Chart 2. Primary Person respondent or IT security leader reports to**
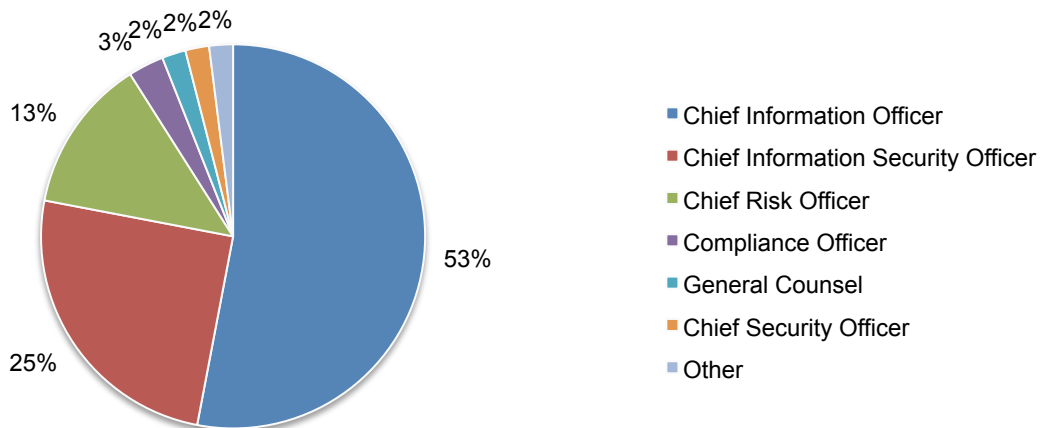
Pie Chart 3 reports the primary industry classification of respondents' organizations. This chart identifies financial services (19 percent) as the largest segment, followed by health and pharmaceuticals (11 percent) and public sector (11 percent).

**Pie Chart 3. Primary industry classification**



Legend:
- Financial Services
- Health & pharmaceuticals
- Public services
- Retail
- Services
- Technology & software
- Consumer products
- Energy & utilities
- Industrial
- Education & research
- Communications
- Entertainment & media
- Hospitality
- Transportation
- Defense & aerospace
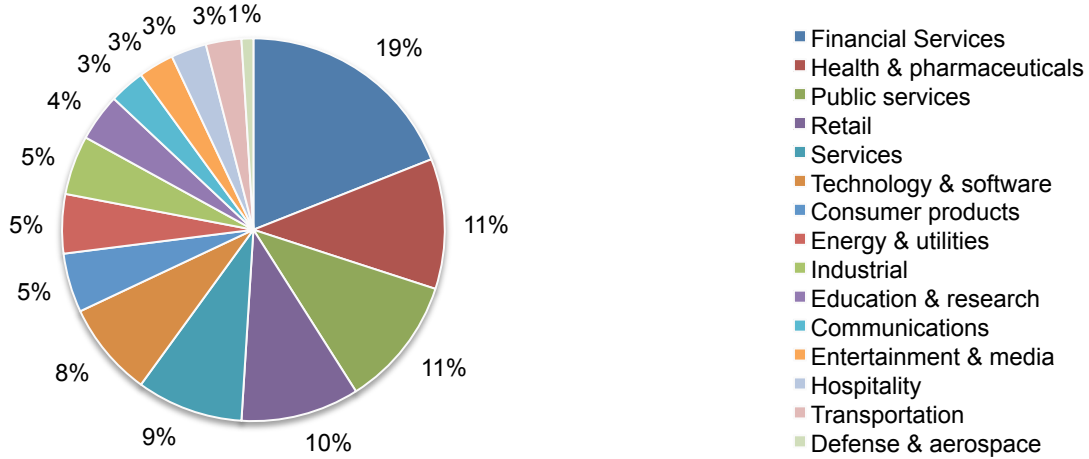
According to Pie Chart 4, 74 percent of the respondents are from organizations with a global headcount of over 1,000 employees.

**Pie Chart 4. Worldwide headcount of the organization**



Legend:
- Less than 500 people
- 500 to 1,000 people
- 1,001 to 5,000 people
- 5,001 to 25,000 people
- 25,001 to 75,000 people
- More than 75,000 people
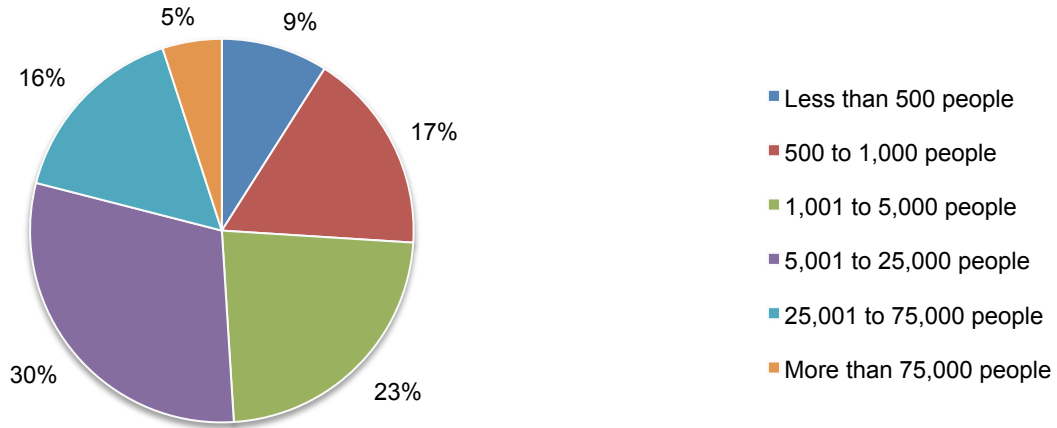
**Part 4. Caveats**

There are inherent limitations to survey research that need to be carefully considered before drawing inferences from findings. The following items are specific limitations that are germane to most web-based surveys.

Non-response bias: The current findings are based on a sample of survey returns. We sent surveys to a representative sample of individuals, resulting in a large number of usable returned responses. Despite non-response tests, it is always possible that individuals who did not participate are substantially different in terms of underlying beliefs from those who completed the instrument.

Sampling-frame bias: The accuracy is based on contact information and the degree to which the list is representative of individuals who are IT or IT security practitioners.  We also acknowledge that the results may be biased by external events such as media coverage. We also acknowledge bias caused by compensating subjects to complete this research within a holdout period.

Self-reported results: The quality of survey research is based on the integrity of confidential responses received from subjects. While certain checks and balances can be incorporated into the survey process, there is always the possibility that a subject did not provide a truthful response.

**Appendix: Detailed Survey Results**

The following tables provide the frequency or percentage frequency of responses to all survey questions contained in this study. All survey responses were captured in November 2014

| Survey response | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
|---|---|---|---|---|---|
| Total sampling frame | 18,664 | 19,001 | 17,744 | 18,988 | 11,890 |
| Rejected and screened surveys | 199 | 218 | 252 | 223 | 218 |
| Final sample | 703 | 676 | 671 | 688 | 564 |
| Response rate | 3.8% | 3.6% | 3.8% | 3.6% | 4.7% |

| Part 1. Screening | | | | | |
|---|---|---|---|---|---|
| S1. What best describes your level of involvement in endpoint security within your organization? | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
| None (stop) | 0% | 0% | 0% | 0% | 0% |
| Low (stop) | 0% | 0% | 0% | 0% | 0% |
| Moderate | 10% | 11% | 9% | 10% | 11% |
| Significant | 54% | 55% | 54% | 50% | 56% |
| Very significant | 36% | 34% | 33% | 33% | 28% |
| Total | 100% | 100% | 100% | 100% | 100% |

| S2.  How many network-connected mobile devices does your organization support? | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
|---|---|---|---|---|---|
| Less than 100 (stop) | 0% | 0% | 1% | 1% | 1% |
| 100 or more connected devices | 100% | 100% | 96% | 95% | 96% |
| Total | 100% | 100% | 97% | 96% | 97% |

| S3. What best describes your role within your organization's IT department? | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
|---|---|---|---|---|---|
| IT management | 26% | 24% | 24% | 21% | 24% |
| IT operations | 21% | 23% | 23% | 23% | 23% |
| Data administration | 9% | 10% | 11% | 13% | 11% |
| IT compliance | 8% | 10% | 9% | 9% | 9% |
| IT security | 32% | 29% | 27% | 29% | 27% |
| Applications development | 4% | 5% | 5% | 5% | 5% |
| I'm not involved in my organization's IT function (stop) | 0% | 0% | 0% | 0% | 0% |
| Total | 100% | 100% | 100% | 100% | 100% |

| Part 2: Attributions | | | |
|---|---|---|---|
| Q1. We have ample resources to minimize IT endpoint risk throughout our organization. | FY 2014 | FY 2013 | FY 2012 |
| Strongly agree | 15% | 16% | 14% |
| Agree | 19% | 16% | 19% |
| Unsure | 21% | 28% | 33% |
| Disagree | 34% | 30% | 26% |
| Strongly disagree | 11% | 10% | 8% |
| Total | 100% | 100% | 100% |

| Q2. The use of employee-owned mobile devices (a.k.a. BYOD) has **significantly** increased endpoint risk throughout or organization. | FY 2014 |
|---|---|
| Strongly agree | 38% |
| Agree | 30% |
| Unsure | 17% |
| Disagree | 10% |
| Strongly disagree | 5% |
| Total | 100% |

| Q3. The use of commercial cloud applications (such as Dropbox, Box.net, GoogleDocs, etc.) has **significantly** increased endpoint risk throughout or organization. | FY 2014 |
|---|---|
| Strongly agree | 41% |
| Agree | 32% |
| Unsure | 14% |
| Disagree | 8% |
| Strongly disagree | 5% |
| Total | 100% |

| Q4.  Employees operating from home offices and other offsite locations (a.k.a. mobile workforce) have **significantly** increased endpoint risk throughout or organization. | FY 2014 |
|---|---|
| Strongly agree | 35% |
| Agree | 28% |
| Unsure | 17% |
| Disagree | 15% |
| Strongly disagree | 5% |
| Total | 100% |

| Q5.  Our IT department cannot keep up with employee demand for greater support and better mobile device connectivity. | FY 2014 |
|---|---|
| Strongly agree | 36% |
| Agree | 32% |
| Unsure | 13% |
| Disagree | 12% |
| Strongly disagree | 7% |
| Total | 100% |

| Q6.  Our approach to endpoint security takes into account the Internet of Things. | FY 2014 |
|---|---|
| Strongly agree | 15% |
| Agree | 18% |
| Unsure | 33% |
| Disagree | 23% |
| Strongly disagree | 11% |
| Total | 100% |

| Q7. Our endpoint security policies are difficult to enforce. | FY 2014 |
|---|---|
| Strongly agree | 39% |
| Agree | 31% |
| Unsure | 15% |
| Disagree | 10% |
| Strongly disagree | 5% |
| Total | 100% |

| Part 3: General questions | | |
|---|---|---|
| Q8a. In the past 24 months, has it become more difficult to manage endpoint risk? | FY 2014 | FY 2013 |
| Yes | 69% | 71% |
| No | 31% | 29% |
| Total | 100% | 100% |

| Q8b. If yes, what are the **top five** (5) biggest threats to endpoint security in your organization? | FY 2014 | FY 2013 |
|---|---|---|
| Malware infections are more stealthy and difficult to detect | 45% | 32% |
| The number of employees and others using multiple mobile devices in the workplace has increased | 65% | 60% |
| The number of insecure mobile devices used in the workplace has increased significantly | 45% | 33% |
| There are more personal devices connected to the network (BYOD) | 68% | 51% |
| Employees' use of commercial cloud applications in the workplace * | 66% | |
| More employees are working offsite and using insecure WiFi connections | 38% | 16% |
| Emergence of new mobile technologies such as Google Glasses, Apple Watch and others * | 5% | |
| Emergence of the Internet of Things (IoT)* | 13% | |
| Negligent or careless employees who do not follow security policies * | 78% | |
| Other | 1% | 0% |
| Total | 424% | 192% |

* This response not available in all FY's,
two choices permitted in FY2013

| Q10a. In the past 24 months, has endpoint security become a more important priority of your organization's overall IT security strategy? | FY 2014 | FY 2013 |
|---|---|---|
| Yes | 68% | 65% |
| No | 32% | 35% |
| Total | 100% | 100% |

| Q10b. If yes, why has endpoint security become more important over the past 24 months? | FY 2014 |
|---|---|
| Change in endpoint security risk profile | 23% |
| Change in management direction and philosophy | 18% |
| Increased use and variety of mobile devices connected to our network | 67% |
| Uncertainty about how new mobile technologies and the Internet of Things such impact security | 49% |
| Increase in the mobile workforce | 45% |
| Other | 2% |
| Total | 204% |

| Q10c. If no, why has endpoint security become less important over the past 24 months? | FY 2014 |
|---|---|
| Change in endpoint security risk profile | 42% |
| Change in management direction and philosophy | 46% |
| Increased reliance on network and perimeter security controls | 28% |
| Shift in IT and/or security priorities | 39% |
| Lack of effective tools/solutions | 26% |
| Diminished resources | 19% |
| Other | 1% |
| Total | 201% |

| Q11. Which of the following statements best describes your endpoint security strategy? | FY 2014 |
|---|---|
| Our endpoint strategy focuses more on securing the data and less on the device. | 55% |
| Our endpoint strategy focuses more on securing the device and less on the data. | 15% |
| Our endpoint strategy focuses equally on securing the device and data. | 30% |
| Total | 100% |

| Q12. Does your organization's approach to endpoint security include the tagging, securing and management of data that resides on the device? | FY 2014 |
|---|---|
| Yes | 44% |
| No | 56% |
| Total | 100% |

| Q13. Does your organization's approach to endpoint security include the tagging, securing and management of data that is accessed by the device, but resides on a public cloud? | FY 2014 |
|---|---|
| Yes | 26% |
| No | 74% |
| Total | 100% |

| Q14a. How will your organization's IT security budget for 2015 compare to 2014? | FY 2014 | FY 2013 |
|---|---|---|
| Significantly increased | 12% | 10% |
| Increased | 33% | 33% |
| Stayed the same | 40% | 43% |
| Decreased | 10% | 11% |
| Significantly decreased | 2% | 3% |
| Unsure* | 3% | 0% |
| Total | 100% | 100% |

This response not available in all FY's

| Q14b. If the IT security budget for 2015 is increased, what is the approximate percentage increase? | FY 2014 | FY 2013 |
|---|---|---|
| 5 percent or less | 20% | 22% |
| 5 to 10 percent | 33% | 35% |
| 11 to 20 percent | 28% | 25% |
| 21 to 30 percent | 10% | 11% |
| 31 to 40 percent | 6% | 5% |
| More than 50 percent | 3% | 2% |
| Total | 100% | 100% |

| Q15a. Following are 5 areas of IT security risks. Please allocate the amount of spending earmarked for each risk listed in the table below. Use all 100 points in the table to allocate your response **today**. | FY 2014 |
|---|---|
| Network | 40 |
| Application | 15 |
| Data | 21 |
| Endpoint | 13 |
| Human | 11 |
| Total points | 100 |

| Q15b. Following are 5 areas of IT security risks. Please allocate the amount of spending earmarked for each risk listed in the table below. Use all 100 points in the table to allocate your response **12 months from now**. | FY 2014 |
|---|---|
| Network | 32 |
| Application | 19 |
| Data | 25 |
| Endpoint | 13 |
| Human | 11 |
| Total points | 100 |

| Q16. How has the **frequency** of malware incidents changed over the past year within your organization? | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
|---|---|---|---|---|---|
| Significantly increased | 39% | 44% | 37% | 31% | 26% |
| Increased | 15% | 15% | 18% | 22% | 21% |
| Stayed the same | 26% | 19% | 22% | 25% | 25% |
| No, there has been a slight decrease* |  | 8% |  |  |  |
| Decreased | 9% |  | 8% | 8% | 9% |
| Significantly decreased | 1% | 2% |  |  |  |
| Unsure | 10% | 12% | 15% | 14% | 17% |
| Total | 100% | 100% | 100% | 100% | 98% |

This response not available in all FY's

| Q17. How has the **severity** of malware incidents changed over the past year within your organization? | FY 2014 |
|---|---|
| Significantly increased | 50% |
| Increased | 19% |
| Stayed the same | 16% |
| Slight decrease* | 4% |
| Decreased* | 4% |
| Significantly decreased* | 0% |
| Unsure | 7% |
| Total | 100% |

This response not available in all FY's

| Q18. With your current enabling technologies, processes and in-house expertise, what percentage of attacks to your organization's endpoints can be realistically stopped? | FY 2014 |
|---|---|
| 0 to 10% | 2% |
| 11 to 20% | 0% |
| 21 to 30% | 2% |
| 31 to 40% | 6% |
| 41 to 50% | 5% |
| 51 to 60% | 13% |
| 61 to 70% | 15% |
| 71 to 80% | 13% |
| 81 to 90% | 13% |
| 91 to 100% | 31% |
| Total | 100% |
| Extrapolated value | 72% |

| Q19. Where is the **one biggest gap** in your organization's ability to stop attacks to endpoints? | FY 2014 |
|---|---|
| Lack of in-house expertise | 29% |
| Lack of enabling technologies | 21% |
| Lack of governance and control processes | 50% |
| Total | 100% |

| Q20. Which of these types of incidents or compromises are you seeing **frequently** in your organization's IT networks? Please check all that apply. | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
|---|---|---|---|---|---|
| Zero day attacks | 46% | 36% | 31% | 29% | 30% |
| Exploit of existing software vulnerability less than 3 months old | 30% | 35% | 28% | 33% | 30% |
| Exploit of existing software vulnerability greater than 3 months old | 24% | 26% | 26% | 31% | 26% |
| SQL injection | 31% | 28% | 29% | 32% | 35% |
| Spyware | 35% | 40% | 45% | 49% | 57% |
| Botnet attacks | 35% | 49% | 55% | 56% | 64% |
| Clickjacking | 46% | 46% | 43% | 37% | 25% |
| Rootkits | 65% | 67% | 65% | 63% | 57% |
| General malware* |  | 80% | 86% | 89% | 92% |
| DDoS* | 29% |  |  |  |  |
| Web-borne malware attacks | 80% | 74% | 79% | 83% | 75% |
| Advanced persistent threats (APT) / targeted attacks | 65% | 59% | 54% | 36% |  |
| Spear phishing | 55% | 48% |  |  |  |
| Hacktivism* |  |  | 41% | 33% |  |
| Other (please specify) | 3% | 4% | 5% | 6% | 13% |
| Total | 544% | 592% | 587% | 577% | 504% |

*This response not available in all FY's

| Q21. Do you believe mobile endpoints have been the target of malware over the past 12 months? | FY 2014 | FY 2013 |
|---|---|---|
| Yes | 75% | 68% |
| No | 18% | 22% |
| Unsure | 7% | 10% |
| Total | 100% | 100% |

| Q22. Where are you seeing the greatest rise of potential IT security risk within your IT environment? Please choose only your **top five** choices. | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010* |
|---|---|---|---|---|---|
| Our server environment | 17% | 17% | 19% | 29% | 32% |
| Our data centers | 6% | 7% | 6% | 12% | 14% |
| Within operating systems (vulnerabilities) | 9% | 8% | 8% | 10% | 11% |
| Across third party applications (vulnerabilities) | 69% | 66% | 67% | 56% | 45% |
| Our PC desktop/laptop | 38% | 43% | 45% | 41% | 44% |
| Mobile devices such as smart phones (Blackberry, iPhone, IPad, Android) | 80% | 75% | 73% | 48% | 9% |
| Removable media (USB sticks) and/or media (CDs, DVDs) | 29% | 35% | 39% | 42% | 10% |
| Network infrastructure environment (gateway to endpoint) | 12% | 12% | 10% | 14% | 11% |
| Malicious insider risk | 30% | 15% | 15% | 16% | |
| Negligent insider risk | 41% | 40% | 44% | 43% | |
| Negligent third party risk (partner, vendors, customers, etc.) | 28% | 33% | | | |
| Cloud computing infrastructure and providers | 32% | 36% | 41% | 43% | 18% |
| Virtual computing environments (servers, endpoints) | 10% | 9% | 19% | 28% | 20% |
| Mobile/remote employees | 42% | 45% | 53% | 49% | 44% |
| Lack of system connectivity/visibility | 35% | 31% | 25% | 29% | |
| Lack of organizational alignment | 22% | 28% | 36% | 39% | |
| Total | 500% | 500% | 500% | 499% | 299% |

*Top 3 choices in the 2010 survey

| Q23. Please estimate how the use of each one of the following technologies will change in your organization over the next 12 to 24 months. | |
|---|---|
| Q23a. Company assigned mobile devices / smart phones and tablets | FY 2014 |
| Substantial increase | 10% |
| Increase | 11% |
| No change | 26% |
| Decrease | 35% |
| Substantial decrease | 15% |
| Not used | 3% |
| Total | 100% |

| Q23b. Employee-owned mobile devices / smart phones and tablets* | FY 2014 | FY 2013 | FY 2012 |
|---|---|---|---|
| Substantial increase | 33% | 44% | 40% |
| Increase | 26% | 35% | 35% |
| No change | 15% | 3% | 3% |
| Decrease | 9% | 4% | 5% |
| Substantial decrease | 5% | 3% | 3% |
| Not used | 12% | 11% | 14% |
| Total | 100% | 100% | 100% |

* Q11from 2013 survey did not specify employee-owned

| Q23c. Virtualized server environment* | FY 2014 |
| --- | --- |
| Substantial increase | 12% |
| Increase | 27% |
| No change | 20% |
| Decrease | 13% |
| Substantial decrease | 8% |
| Not used | 20% |
| Total | 100% |

*Virtualized environments (servers &
desktops) combined in previous FY's

| Q23d. Virtualized desktop environment* | FY 2014 |
| --- | --- |
| Substantial increase | 8% |
| Increase | 15% |
| No change | 22% |
| Decrease | 5% |
| Substantial decrease | 1% |
| Not used | 49% |
| Total | 100% |

*Virtualized environments (servers &
desktops) combined in previous FY's

| Q23e. Employee use of commercial cloud computing services * | FY 2014 | FY 2013 | FY 2012 |
| --- | --- | --- | --- |
| Substantial increase | 38% | 38% | 32% |
| Increase | 33% | 32% | 31% |
| No change | 23% | 18% | 20% |
| Decrease | 6% | 7% | 6% |
| Substantial decrease | 0% | 2% | 5% |
| Not used | 0% | 3% | 6% |
| Total | 100% | 100% | 100% |

* FY 2013 wording slightly different - Use of
3rd party (non-company) cloud computing

| Q24. When it comes to IT security, which applications are of greatest concern to your organization in terms of increasing vulnerabilities and IT risk? Please choose only your **top five (5)** choices. | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
| --- | --- | --- | --- | --- | --- |
| Microsoft OS/Applications | 34% | 37% | 44% | 49% | 57% |
| Apple/Mac OS | 29% | 30% | 30% | 24% | 15% |
| Apple apps (Air, QuickTime, iTunes, etc.) | 33% | 29% | 28% | 20% | 14% |
| Adobe (Acrobat, Flash Player Reader etc.) | 62% | 60% | 55% | 50% | 54% |
| Oracle Java JRE | 54% | 20% | 15% | 22% | 10% |
| Browsers (e.g., Chrome, Firefox, Safari, IE Opera, etc.)* | 16% | 3% | 3% | 6% | 2% |
| Cloud-based productivity apps (e.g., Google Docs, Office 365, Evernote, etc.) | 46% | 50% | 55% | 47% | 46% |
| Other third-party apps (e.g., WinZip, VLC, VMware, VNC, etc.) | 40% | 56% | 69% | 82% | 95% |
| Uncontrolled use of private cloud storage (e.g., Box, Dropbox, iCloud, etc.) | 43% | 15% | | | |
| Uncontrolled use of removal storage devices or media (e.g., USB flash drives, CDs/DVDs, etc.) | 18% | | | | |
| Other (please specify) | 2% | 0% | 0% | 1% | 4% |
| Total | 377% | 300% | 299% | 299% | 298% |

* Q23 from the FY2013 survey listed
Firefox as a single option

| Q25. Does your organization have an integrated endpoint security suite (vulnerability assessment, device control, anti-virus, anti-malware, patch management or other capabilities)? | FY 2014 | FY 2013 | FY 2012 | FY 2011 |
|---|---|---|---|---|
| Yes | 42% | 38% | 35% | 33% |
| No, but our organization expects to have an endpoint security suite within the next 12-24 months | 47% | 49% | 48% | 46% |
| No | 11% | 13% | 17% | 21% |
| Total | 100% | 100% | 100% | 100% |

| Q26. Approximately how many software agents does your organization typically have installed on each endpoint to perform management, security and/or other operations? Please provide your best estimate. | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
|---|---|---|---|---|---|
| 1 to 2 | 14% | 16% | 19% | 18% | |
| 3 to 5 | 19% | 23% | 21% | 23% | |
| 6 to 10 | 41% | 38% | 41% | 39% | |
| More than 10 | 21% | 18% | 13% | 10% | |
| Cannot determine | 5% | 5% | 6% | 10% | |
| Total | 100% | 100% | 100% | 100% | |
| Extrapolated value | 7.03 | 6.69 | 6.35 | 6.12 | |

| Q27. On a typical day, how many different or distinct software management **user interfaces or consoles** does your organization use to manage endpoint operations and security functions? Please provide your best estimate. | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
|---|---|---|---|---|---|
| 1 to 2 | 12% | 14% | 19% | 23% | |
| 3 to 5 | 23% | 25% | 25% | 29% | |
| 6 to 10 | 43% | 38% | 35% | 30% | |
| More than 10 | 17% | 14% | 11% | 9% | |
| Cannot determine | 5% | 9% | 10% | 9% | |
| Total | 100% | 100% | 100% | 100% | |
| Extrapolated value | 6.81 | 6.52 | 6.01 | 5.48 | |

**Part 4. Predictions & Trends**

| Q28. The notion of the endpoint as a security sensor – that is, where state or context data collected at the endpoint is used to determine if it has been or is being compromised – is gaining in popularity. Is this something your organization is doing or planning to do? | FY 2014 |
|---|---|
| Yes, doing it now | 19% |
| Yes, planning to do so in the next 24 months | 18% |
| Yes, planning to do so more than 24 months from now | 9% |
| No | 45% |
| Never heard of it | 9% |
| Total | 100% |

| Q29. Has your organization added or plan to add, a threat intelligence component to its security stack? | FY 2014 |
|---|---|
| Yes, doing it now | 33% |
| Yes, planning to do so in the next 24 months | 22% |
| Yes, planning to do so more than 24 months from now | 9% |
| No | 36% |
| Total | 100% |

| Q30. Traditional endpoint defense has focused on prevention, but there is a growing movement towards a so-called "detect and respond" orientation. Is your organization moving towards this paradigm? | FY 2014 |
|---|---|
| Yes, doing it now | 44% |
| Yes, planning to do so in the next 24 months | 30% |
| Yes, planning to do so more than 24 months from now | 21% |
| No | 5% |
| Never heard of it | 0% |
| Total | 100% |

| Q31. Is your organization currently using or planning to use SCCM as its main systems management tool? | FY 2014 |
|---|---|
| Yes, using it now | 6% |
| Yes, planning to use in the next 24 months | 21% |
| Yes, planning to use more than 24 months from now | 18% |
| No | 51% |
| Never heard of it | 4% |
| Total | 100% |

| Q32. A growing trend in cyber attacks has been the unleashing of so-called "destructive malware" (such as Cryptolocker, Shamoon, etc.). Has your organization's tactical plans and policies kept up with this development? | FY 2014 |
|---|---|
| Yes | 43% |
| No | 53% |
| Unsure | 4% |
| Total | 100% |

| Q33. A growing trend has been the use of co-called "big data" as a tool to enhance endpoint and database security. Is your organization using or planning to use big data as part of its cyber defense? | FY 2014 |
|---|---|
| Yes, using it now | 11% |
| Yes, planning to use in the next 24 months | 41% |
| Yes, planning to use more than 24 months from now | 18% |
| No | 30% |
| Total | 100% |

| Q34. The cyber security community has been discussing the need to develop an offensive security capability (i.e., discover who is behind an attack and then counterattack). Is this something your organization is or will be pursuing? | FY 2014 |
|---|---|
| Yes, pursuing now | 9% |
| Yes, planning to pursue in the next 24 months | 18% |
| Yes, planning to pursue more than 24 months from now | 23% |
| No | 50% |
| Total | 100% |

| **Part 5. Organizational Characteristics & Demographics** | | | | | |
|---|---|---|---|---|---|
| D1. What organizational level best describes your current position? | **FY 2014** | **FY 2013** | **FY 2012** | **FY 2011** | **FY 2010** |
| Senior Executive | 1% | 1% | 0% | 1% | 2% |
| Vice President | 1% | 2% | 2% | 1% | 1% |
| Director | 17% | 18% | 19% | 22% | 23% |
| Manager | 24% | 25% | 26% | 23% | 25% |
| Supervisor | 17% | 19% | 19% | 18% | 19% |
| Technician | 29% | 25% | 23% | 20% | 16% |
| Staff | 7% | 8% | 7% | 10% | 9% |
| Contractor | 3% | 2% | 3% | 4% | 3% |
| Other | 1% | 0% | 1% | 1% | 2% |
| Total | 100% | 100% | 100% | 100% | 100% |

| D2. Check the **Primary Person** you or your IT security leader reports to within the organization. | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
|---|---|---|---|---|---|
| CEO/Executive Committee | 1% | 0% | 0% | 0% | 1% |
| Chief Financial Officer (CFO) | 1% | 2% | 1% | 1% | 2% |
| General Counsel | 2% | 1% | 3% | 2% | 2% |
| Chief Information Officer (CIO) | 53% | 53% | 54% | 53% | 50% |
| Chief Information Security Officer (CISO) | 25% | 25% | 23% | 23% | 21% |
| Compliance Officer | 3% | 4% | 6% | 8% | 9% |
| Human Resources VP | 0% | 0% | 0% | 0% | 2% |
| Chief Security Officer (CSO) | 2% | 2% | 4% | 5% | 6% |
| Chief Risk Officer (CRO) | 13% | 12% | 9% | 8% | 5% |
| Other | 0% | 1% | 0% | 0% | 2% |
| Total | 100% | 100% | 100% | 100% | 100% |

| D3. What industry best describes your organization's **primary** industry focus? | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
|---|---|---|---|---|---|
| Agriculture & food services | 0% | 1% | 2% | 1% | 2% |
| Communications | 3% | 2% | 3% | 5% | 4% |
| Consumer products | 5% | 4% | 3% | 2% | 3% |
| Defense & aerospace | 1% | 1% | 2% | 3% | 3% |
| Education & research | 4% | 3% | 5% | 6% | 5% |
| Energy & utilities | 5% | 5% | 4% | 3% | 2% |
| Entertainment & media | 3% | 4% | 3% | 4% | 3% |
| Financial Services | 19% | 21% | 20% | 18% | 19% |
| Health & pharmaceuticals | 11% | 12% | 12% | 10% | 11% |
| Hospitality | 3% | 3% | 5% | 4% | 4% |
| Industrial | 5% | 1% | 5% | 4% | 5% |
| Public services | 11% | 12% | 10% | 12% | 13% |
| Retail | 10% | 9% | 9% | 8% | 7% |
| Services | 9% | 11% | 8% | 9% | 8% |
| Technology & software | 8% | 8% | 7% | 8% | 6% |
| Transportation | 3% | 3% | 2% | 3% | 5% |
| Total | 100% | 100% | 100% | 100% | 100% |

| D4. Where are your employees located? Check all that apply. | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
|---|---|---|---|---|---|
| United States | 100% | 100% | 100% | 100% | 100% |
| Canada | 65% | 63% | 65% | 69% | 63% |
| Europe | 70% | 72% | 71% | 70% | 68% |
| Middle East | 31% | 28% | 26% | 23% | 19% |
| Asia-Pacific | 54% | 55% | 50% | 45% | 41% |
| Latin America (including Mexico) | 39% | 36% | 32% | 31% | 29% |
| Africa | 5% | 6% | 5% | 7% | 8% |

| D5. What is the worldwide headcount of your organization? | FY 2014 | FY 2013 | FY 2012 | FY 2011 | FY 2010 |
|---|---|---|---|---|---|
| Less than 500 people | 9% | 8% | 7% | 5% | 6% |
| 500 to 1,000 people | 17% | 15% | 16% | 16% | 13% |
| 1,001 to 5,000 people | 23% | 20% | 21% | 22% | 19% |
| 5,001 to 25,000 people | 30% | 34% | 33% | 31% | 32% |
| 25,001 to 75,000 people | 16% | 20% | 19% | 21% | 21% |
| More than 75,000 people | 5% | 3% | 4% | 5% | 9% |
| Total | 100% | 100% | 100% | 100% | 100% |
| Extrapolated value | 17,340 | 18,125 | 18,268 | 19,750 | 22,832 |

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