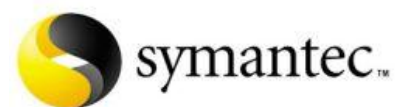


# 2010 State of the Data Center Global Data

*January 2010*



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## EXECUTIVE SUMMARY

Twelve months into a global recession we find data centers at a crossroads. The economy has clearly affected IT, with budgets and staffing pressures front and center. Despite this, data center complexity is at an all time high with a host of new technology initiatives keeping IT managers busy.

Some initiatives, such as virtualization, consolidation and storage initiatives, we have seen in years past. Others, such as cloud computing and Platform-as-a-Service, are just coming into their own.

Overall, we spotted five key findings for 2010.

First, we found that it is the mid-sized data enterprises that are vanguards of the data center. They lead in new technology adoption, data center change and focus on staffing.

Second, the data center continues to become more complex and harder to manage. Changes to the network fabric, increasing applications and more demanding SLAs are combining to make life difficult for data center managers.

Our third finding notes the most important initiatives in 2010: security, backup and recovery and continuous data protection.

Increased complexity in the data center makes our fourth finding, that staffing remains tight, especially impactful. At a time when the data center is harder than ever to manage, most enterprises are finding it very difficult to recruit and retain qualified staff.

And, finally, we see that disaster recovery plans continue to be a soft spot for enterprise IT. While generally in good shape, there are notable gaps in data center DR plans.

## METHODOLOGY

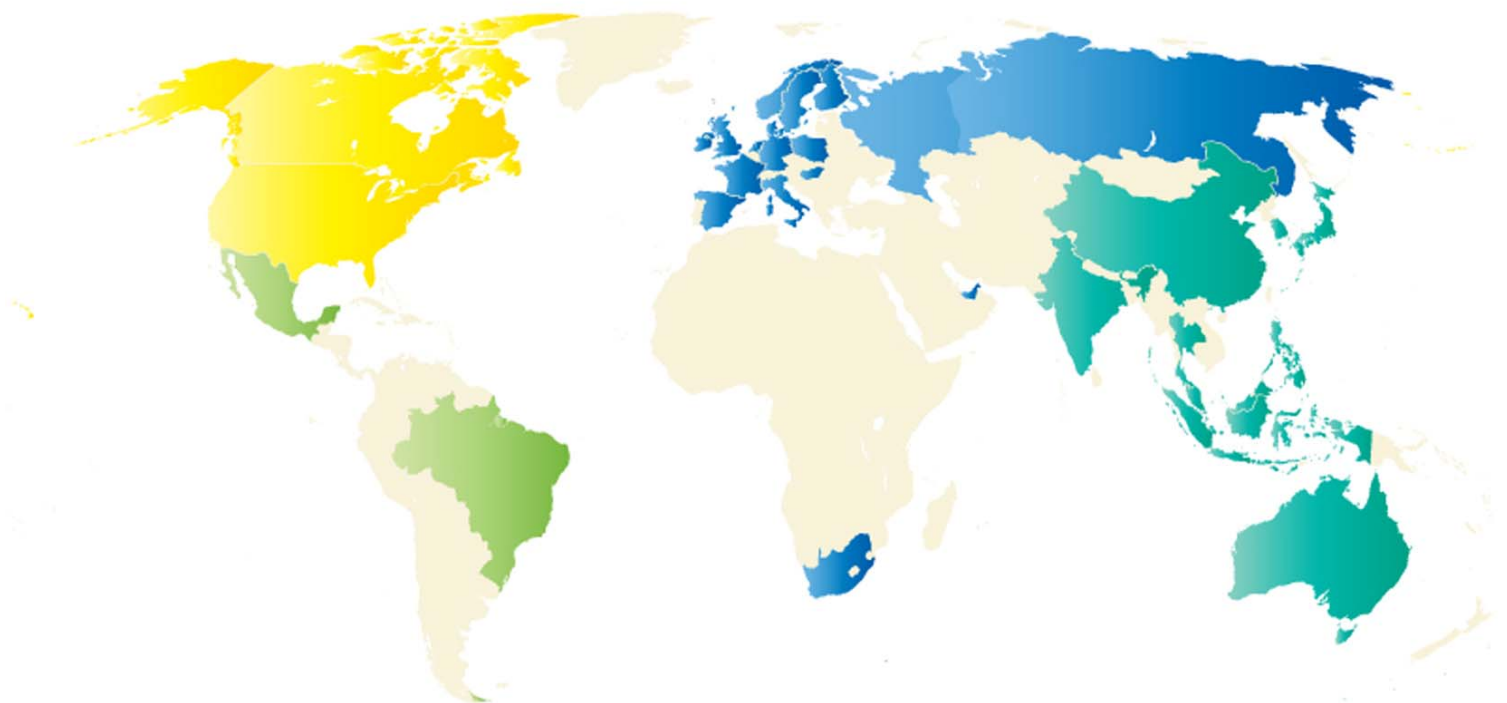
Applied Research fielded the survey by telephone in November of 2009.

They targeted headquarters locations of enterprises in 26 countries.

The respondents came from three groups:

- Small (1,000 – 1,999 employees)
- Mid (2,000 – 9,000 employees)
- Large (10,000+ employees)

The survey respondents came from a wide variety of industries and included a mix of IT SVP, VP and Directors or manager responsible for the data center.



North America (563)	Latin America (84)	EMEA (573)	APJ (560)
United States 513	Brazil 49	Germany 120	Japan 150
Canada 50	Mexico 35	United Kingdom 100	China 120
		France 95	India 50
		Italy 75	South Korea 50
		Spain 50	Australia 50
		Russia 45	Malaysia 50
		Netherlands 28	Singapore 30
		Nordics 15	Indonesia 20
		Poland 15	Thailand 20
		South Africa 10	Philippines 20
		Hungary 10	
		United Arab Emirates 10	



FINDING 1:

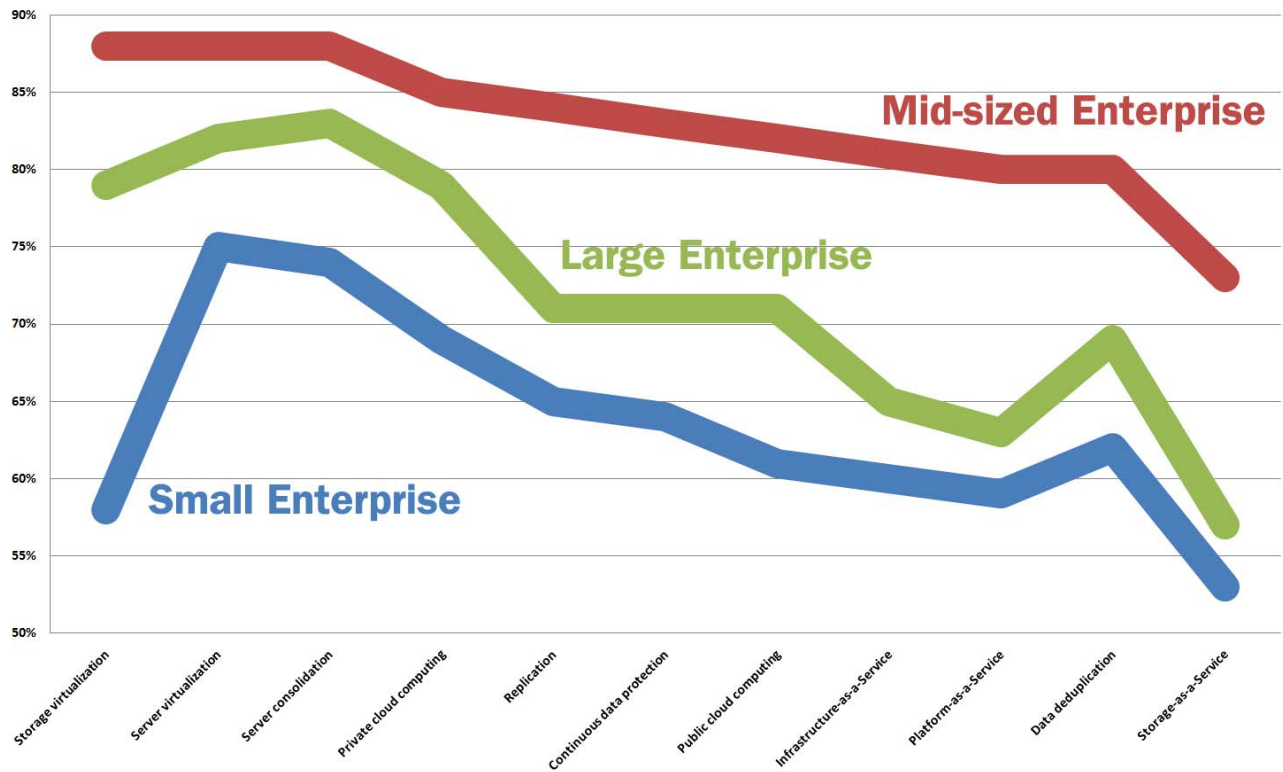
Mid-sized enterprises lead the way

Not surprisingly, when we measured just how aggressively organizations were adopting new technology there was a wide range of responses. Who was leading the way, however, *was* a surprise. Interestingly, it was not the largest enterprises that were the most aggressive. Our study shows conclusively that it is the mid-sized enterprises that are the vanguards of the data center.

First, we measured how IT was adopting new technology in 11 different areas. In every case, mid-sized enterprises were more involved than large enterprises.

For example, 69 percent of small enterprises and 71 percent of large enterprises are involved in continuous data protection. Contrast those numbers with the 83 percent of mid-sized organizations pursuing CDP. The same trend held true for cloud computing, server virtualization and every other technology area.

## Involvement in New Technology by Enterprise Size



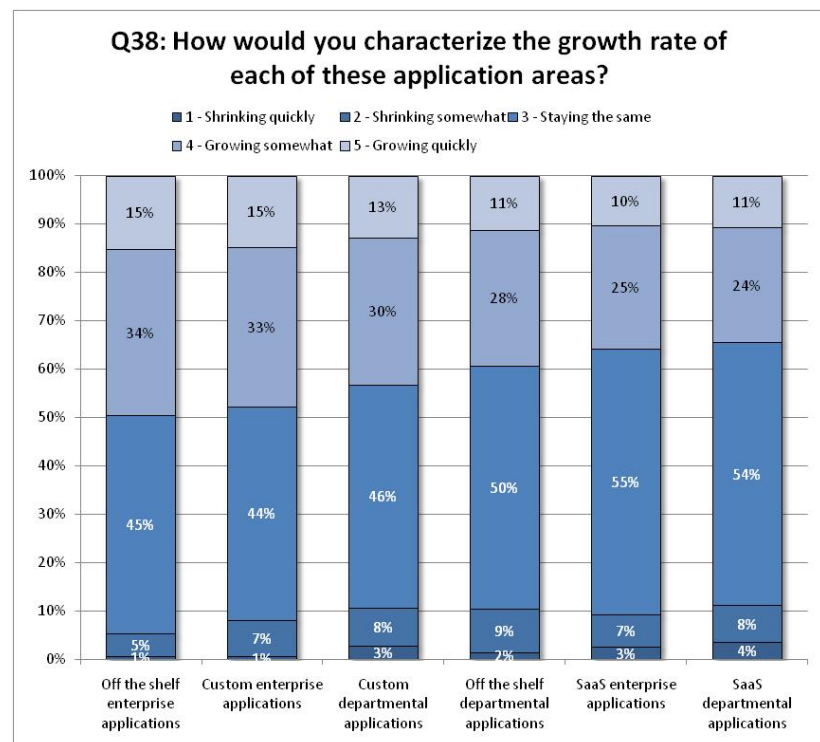
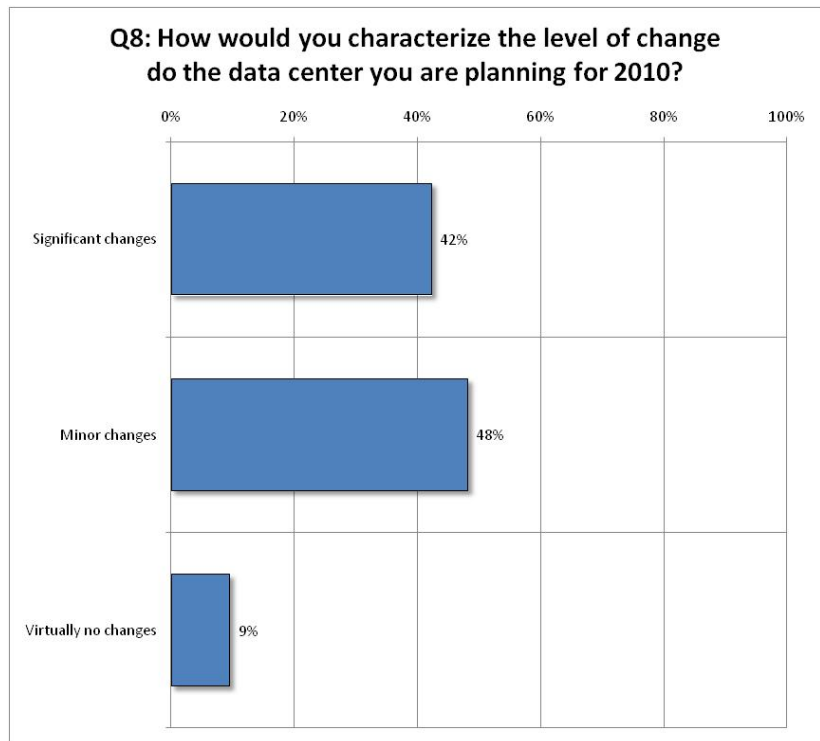
Second, we asked IT managers to tell us the level of change they expect to make in their data centers in 2010. Overall, 42 percent said "significant changes". But this number masks the variance found in the different organization sizes. Large enterprise was 41 percent and small enterprise was 34 percent. But a full 53 percent of mid-sized enterprises expect to make significant changes to their data center in 2010.

The same held true with training, were just 28 percent of large enterprises saw training budgets rise in 2009 compared with 50 percent for mid-sized enterprises.

Part of the significant changes will no doubt be an increase in the number of applications IT manages. When we asked how quickly the number of applications would grow in 2010, 46 percent of large enterprises said "somewhat" or "quickly" compared to 66 percent of mid-sized enterprises.

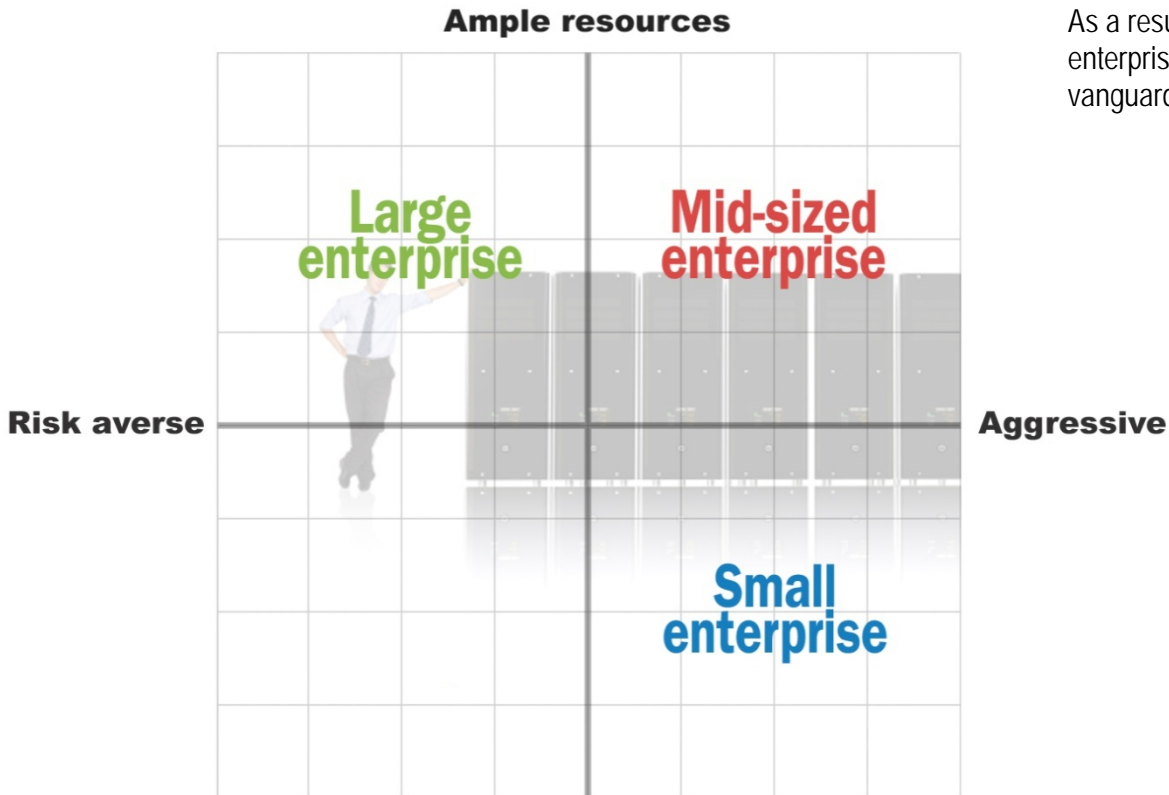
But perhaps we shouldn't be surprised at all of this. *"Mid-sized companies exist in what I would call the 'Goldilocks zone'",* according to a Seattle-based mid-sized enterprise IT manager. *"Whereas large companies take several years just to evaluate anything. And small companies lack resources, mid-sized companies have just the right mix of resources and agility to quickly tackle new technologies."*

His counterpart, an IT director at a large Pennsylvania-based enterprise, concurred: *"Medium-sized enterprises are easier to maintain and to control than large sized enterprises. They are easier to get everything up and running. In a large enterprise there is so much stuff that you have to go through. Often you wait two months to get something approved. That's just how it is."*



In fact, our theory is that the main drivers to data center aggressiveness are *resources* and *willingness to take risks*. Small enterprises are scrappy and very willing to take risk, yet they lack the resources to adopt a large number of technology initiatives. Large enterprises have the resources but are generally risk-averse.

It is the mid-sized enterprise that exists in what Seattle based IT manager calls the Goldilocks Zone. They have just the right combination of available resources and willingness to take risks.



As a result, it is the mid-sized enterprise that has become the vanguard of the data center.

**FINDING 2:**

**Data centers more complex, harder to manage**

This year's study continues to see IT managers struggling with data center complexity. When asked to name the biggest impediments to staff productivity, 36 percent said "too many applications" was a big/huge problem. Further, 35 percent indicated "data centers becoming too complex to manage easily" was a big/huge problem.

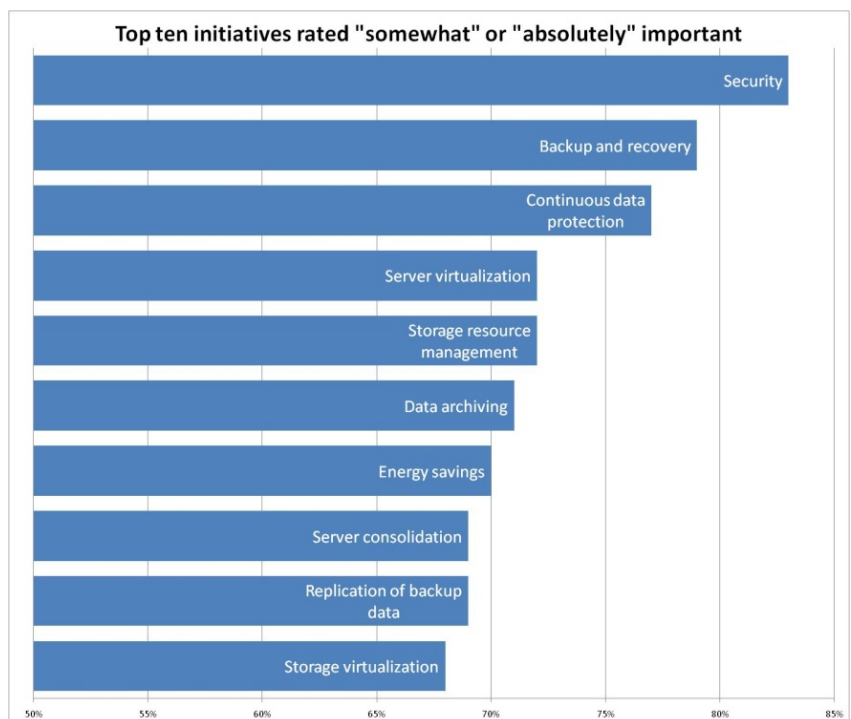
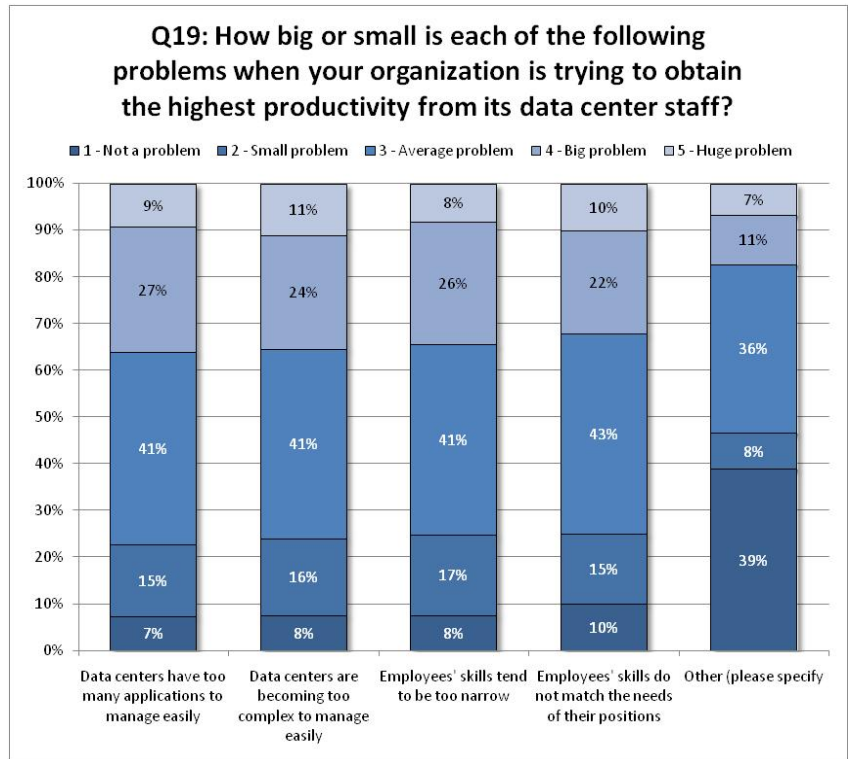
As indicated in the previous section, the data center is also working on an extremely large number of new technology initiatives. In fact, two thirds listed 10 or more key initiatives for 2010.

It is getting worse. Half expect to make "significant" changes to the data center in 2010 and half find SLAs more/much more difficult and costly to meet.

According to an IT project manager in a Dallas-based mid-sized enterprise: *"Things are more complex than in years past for several reasons. First, there is more data than ever and we are collecting it at an ever-increasing pace. Second, most of the applications are now real-time whereas in the past many applications were batch-oriented. Finally, service level agreements are becoming more demanding. These are the things that drive complexity in our company."*

An IT director from a large enterprise in Pennsylvania added: *"Technology solutions are far more advanced than what they were 3 to 5 years ago. There are certain days where I don't know how I'm going to do this."*

So, while this trend is not new – we saw the same thing last year – it does continue to color how the data center operates.

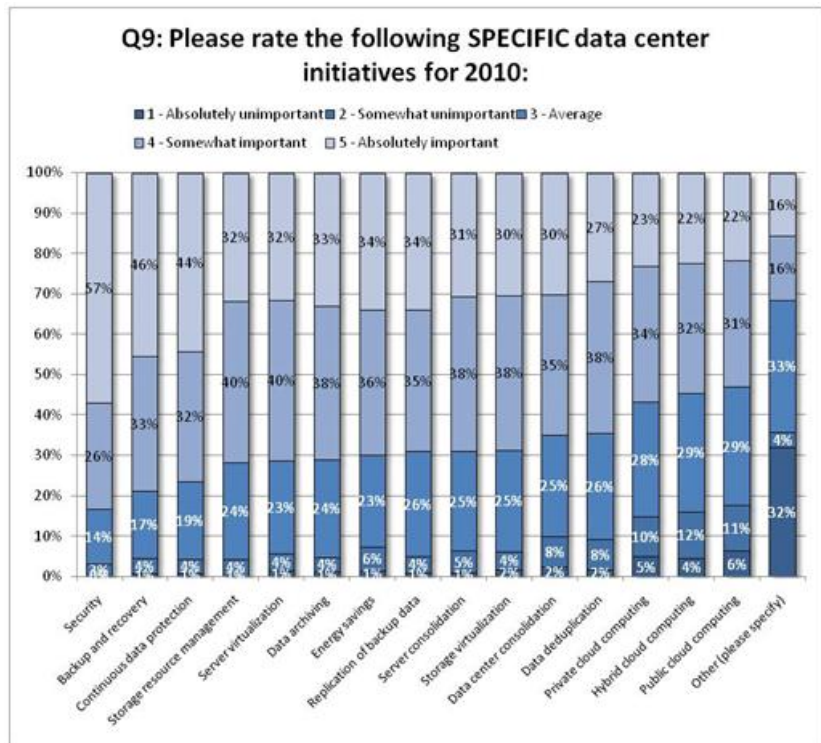


### FINDING 3: Important Initiatives in 2010

As stated in the previous section, two thirds of enterprises listed 10 or more key initiatives for 2010.

The top initiatives are security, backup and recovery, and continuous data protection.

Eighty-three percent of enterprises rated security somewhat or absolutely important. Seventy-nine percent said backup and recovery is somewhat/absolutely important and 76 percent rated continuous data protection as one of their top initiatives.



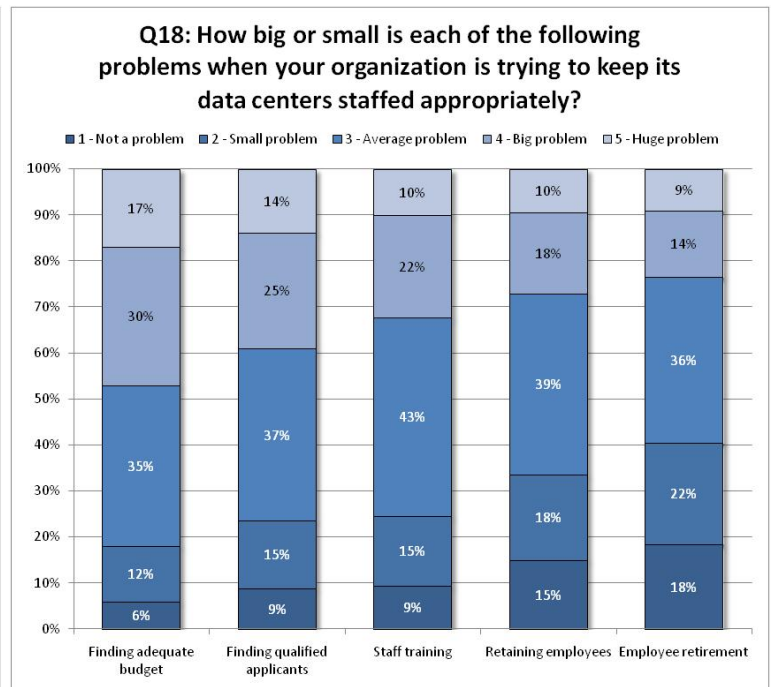
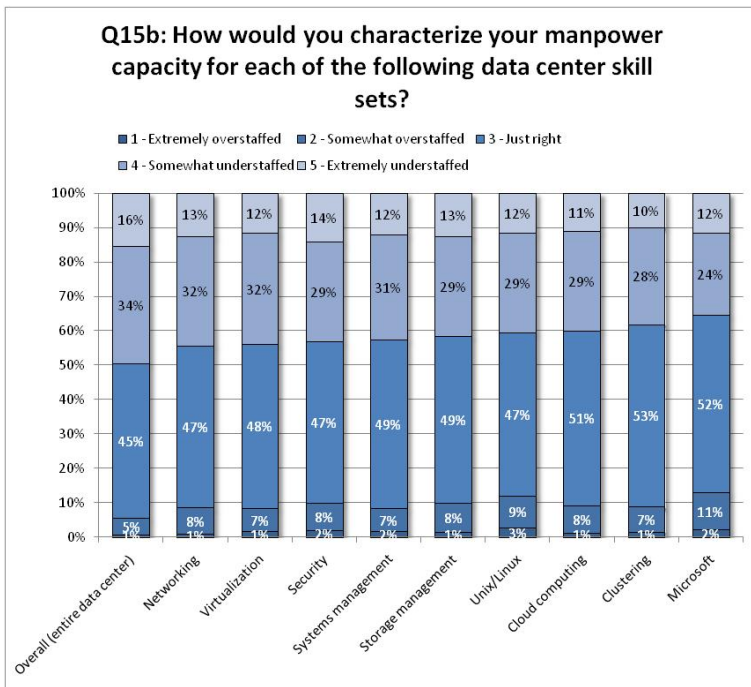
## Finding 4: Staffing remains tight

Another holdover from last year's study is trouble keeping the data center properly staffed. More than half the respondents report being somewhat/extremely understaffed overall. Furthermore, 76 percent have the same or more open job requisitions compared to 12 months ago.

In terms of specific skills, networking, virtualization and security are the most impacted rated as somewhat/extremely understaffed by 45, 44 and 43 percent respectively.

As to why, budgets and finding qualified applicants remain the biggest roadblocks to staffing.

According to a network manager of a mid-sized New York enterprise:  
*"We recently actually lost 25% of our department in cutbacks. I'm now doing a number of different jobs. I work from home and on the weekends doing things I never had to do before. I am just trying to do more with less. We could use more people, but right now, it doesn't seem to be an option."*



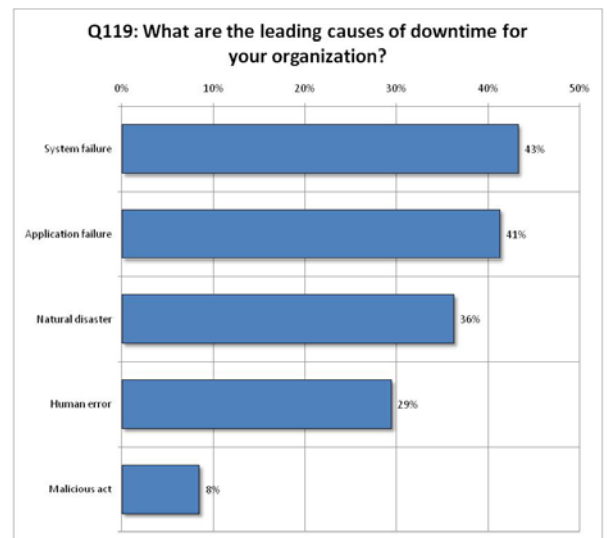
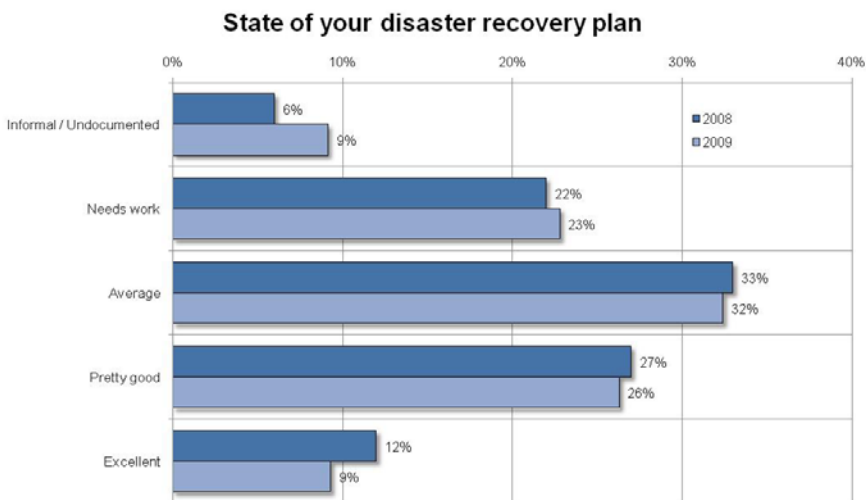


## FINDING 5: Disaster recovery plan issues

Finally, this year's study illustrates some issues with enterprise disaster readiness. We asked the data center managers how confident they were with their disaster recovery plans. The median answer was 80 percent.

That is somewhat encouraging, but that still indicates significant room for improvement. That is not surprising since roughly one third say their plan is either undocumented or needs work. Also interesting was that often there are important areas left out of the plan (for example: virtual servers, remote offices and cloud computing).

Finally, we found that the typical enterprise experienced two events in the past 12 months that caused downtime. The leading causes of downtime were system failure, application failure and natural disasters.



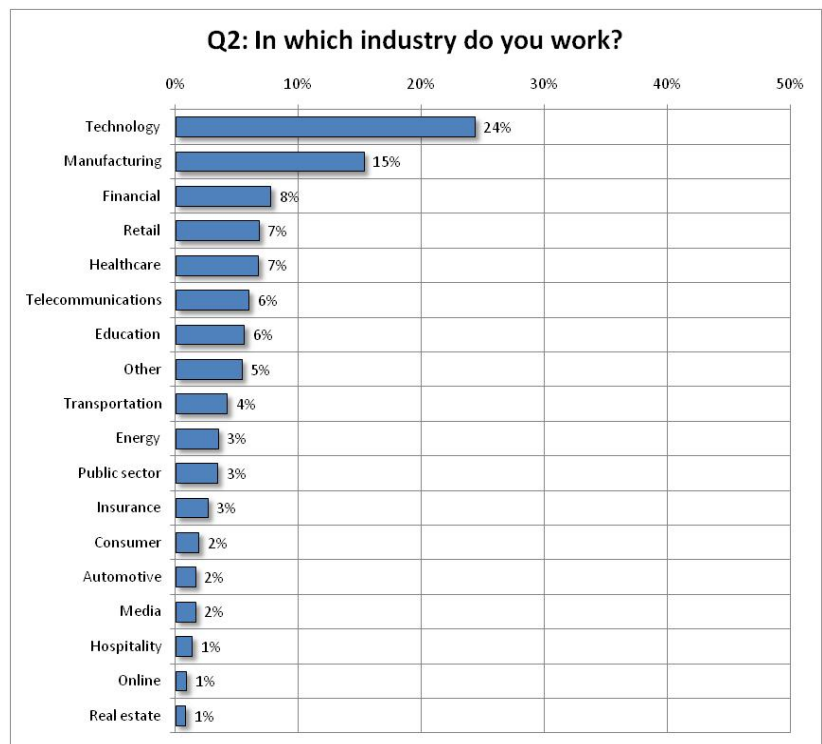
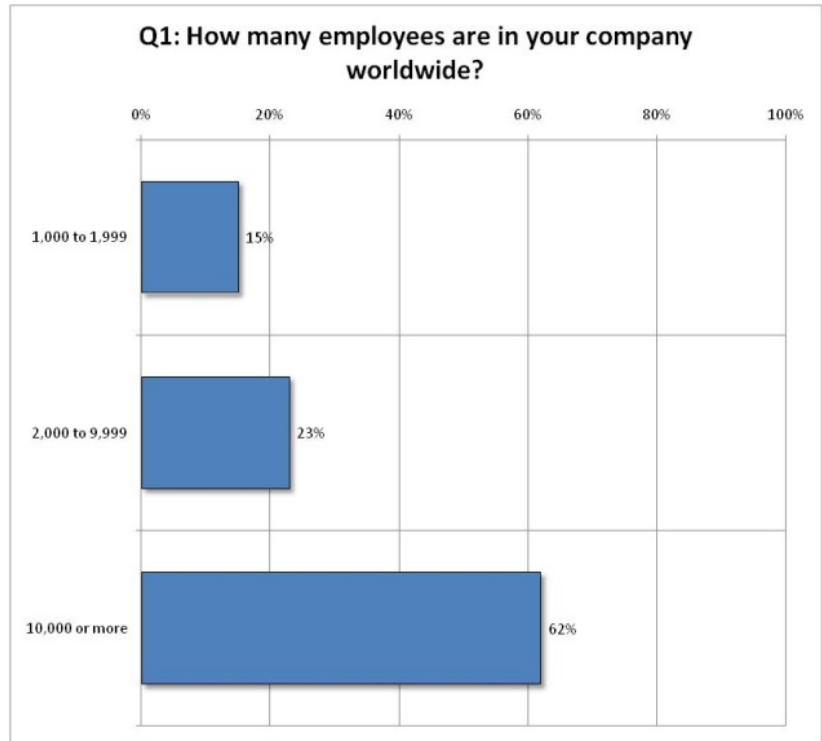
## RECOMMENDATIONS

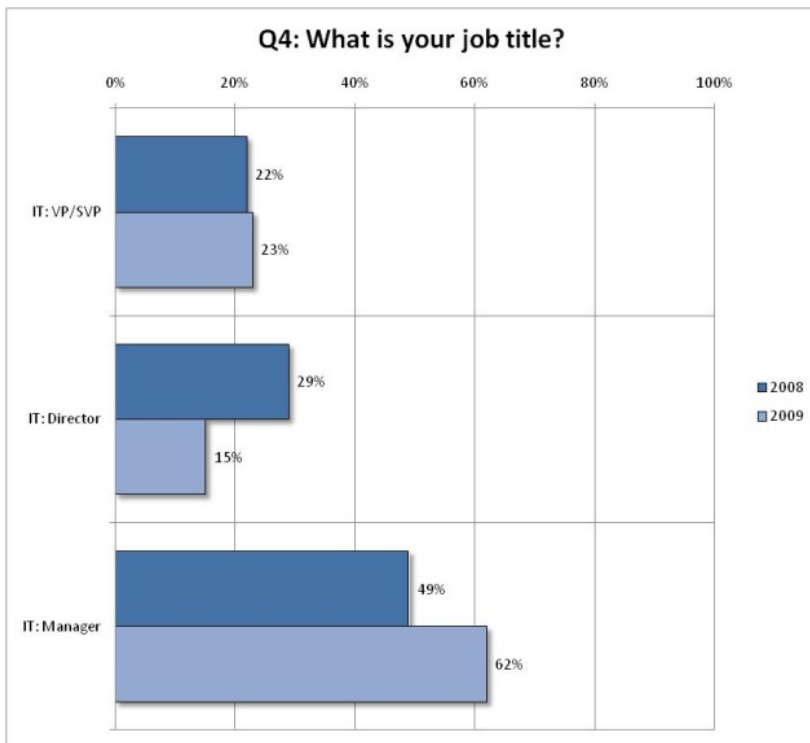
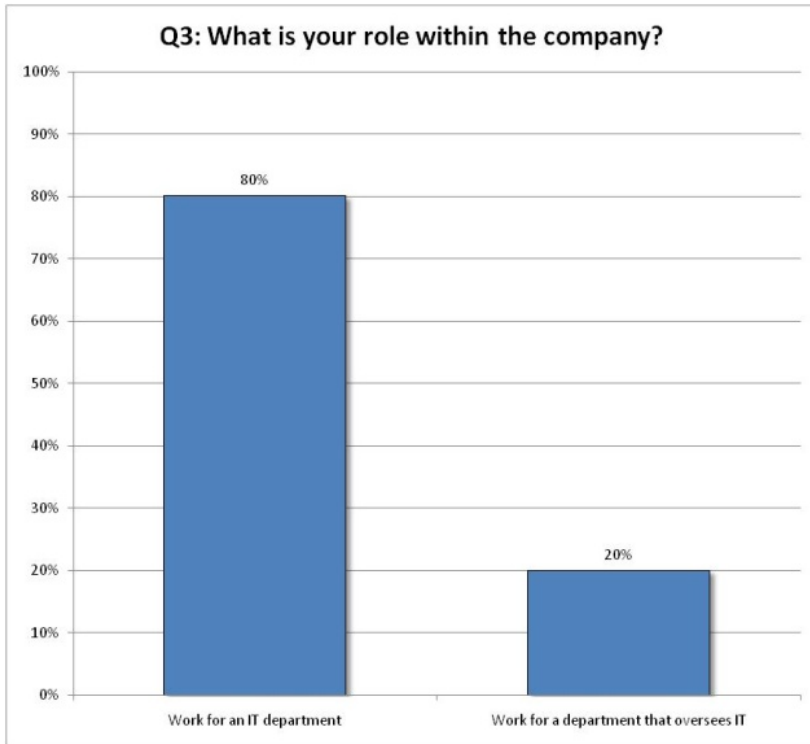
- Software that supports heterogeneous environments is particularly important for mid-sized enterprises that are aggressively adopting new technologies, but typically don't have the staffing expertise of large enterprises.
- Organizations should deploy deduplication closer to the information source to eliminate redundant data and reduce storage and network costs.
- Data center administrators need to manage storage across heterogeneous server and storage environments in a way that enables them to stop buying storage by leveraging new technology adoption such as storage resource management, thin provisioning, deduplication, storage virtualization and continuous data protection and recovery. Organizations leveraging a holistic approach to storage management can control storage budget growth and often postpone storage purchases.
- Disaster recovery testing is invaluable, but can significantly impact business. Enterprises should seek to improve the success of testing by evaluating and implementing testing methods which are non-disruptive.
- Organizations should deploy a single, unified platform for physical and virtual machine protection to simplify information management.

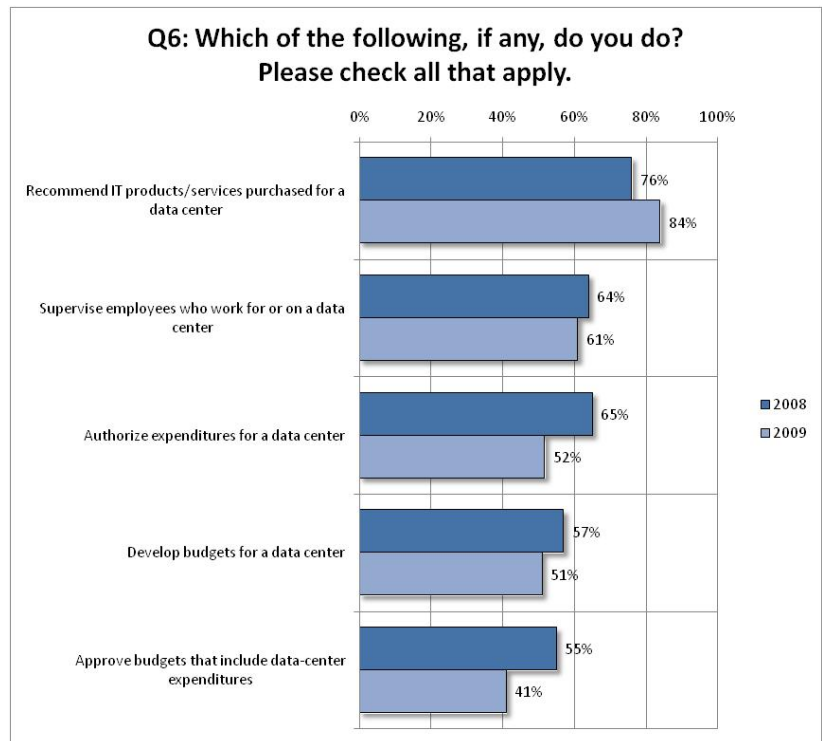
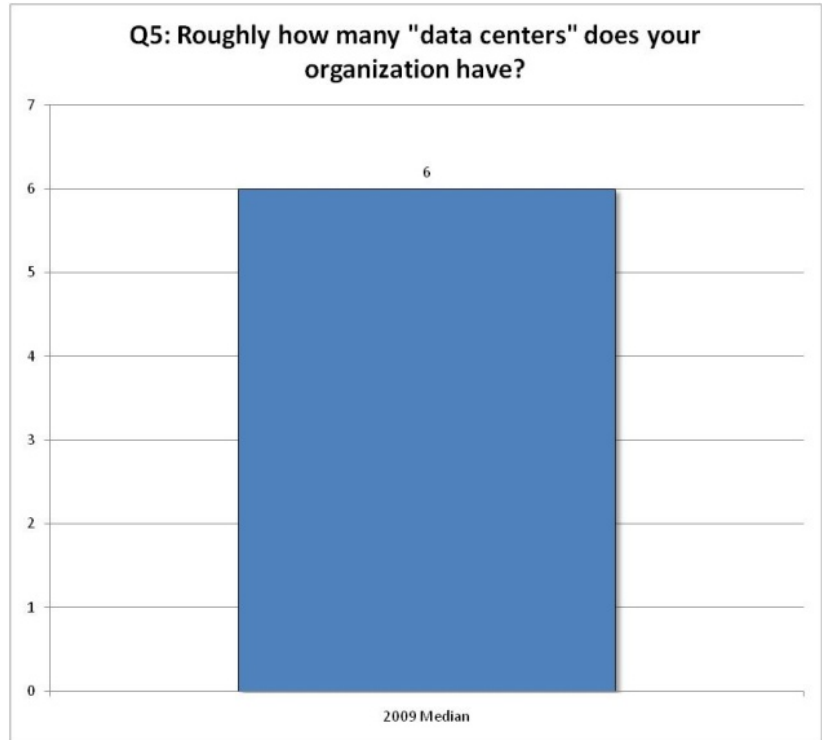


## APPENDIX

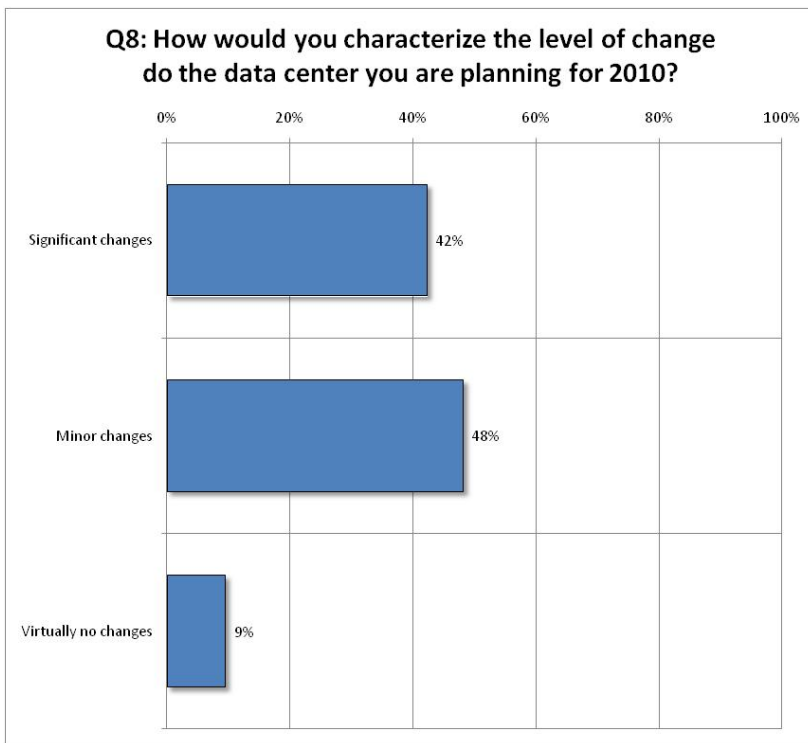
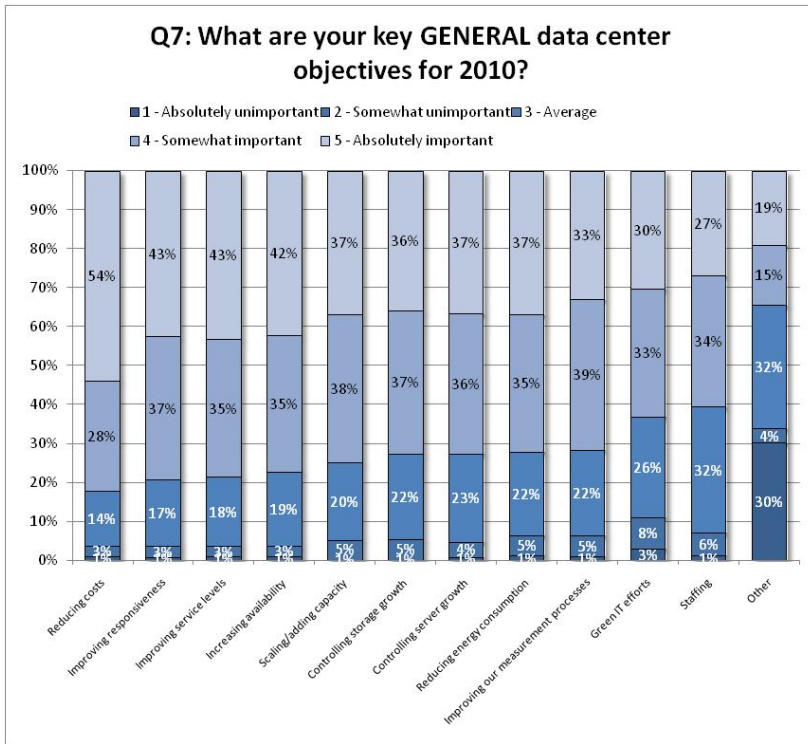
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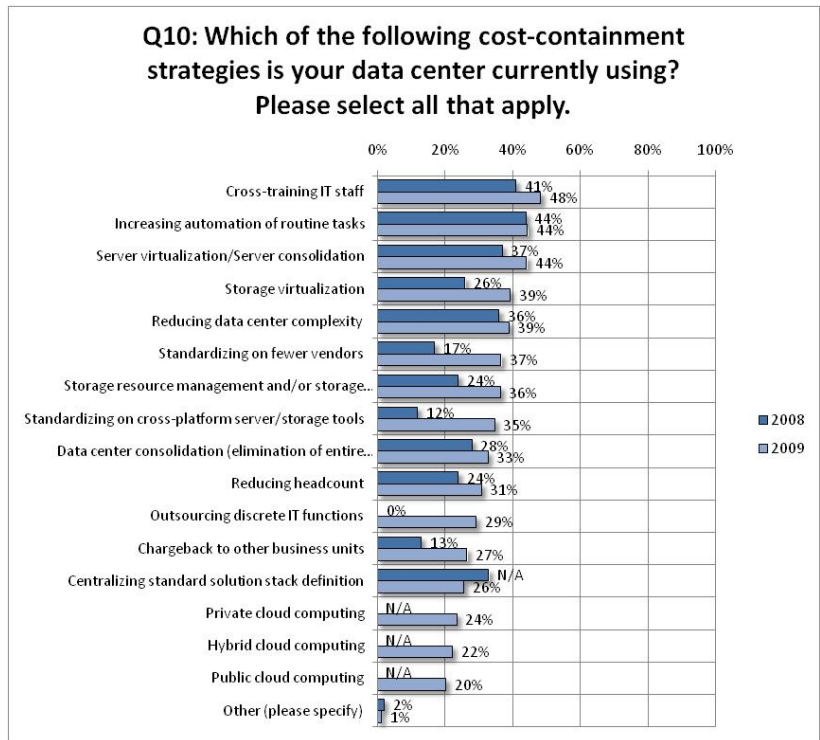
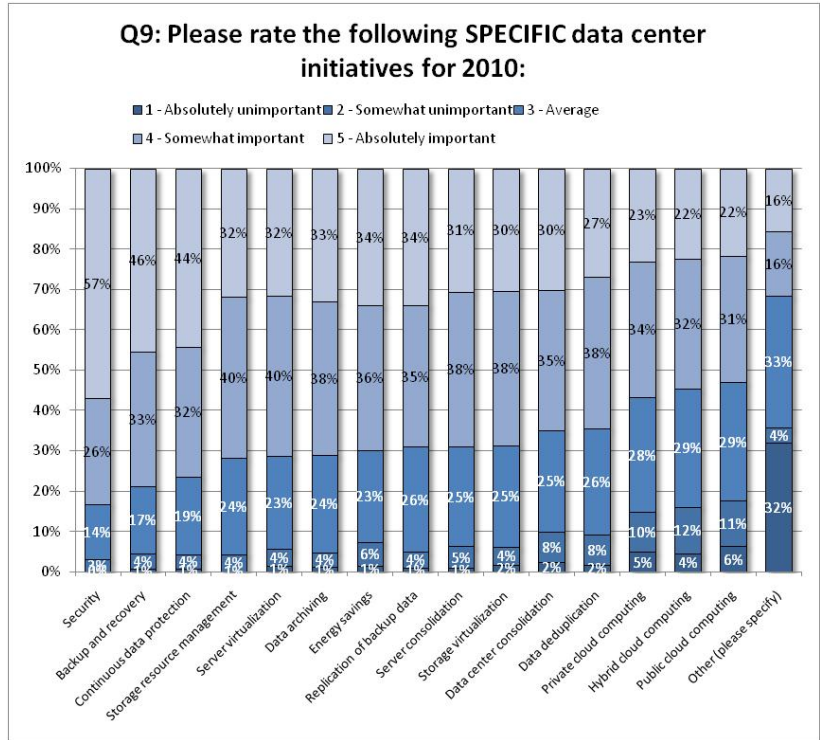




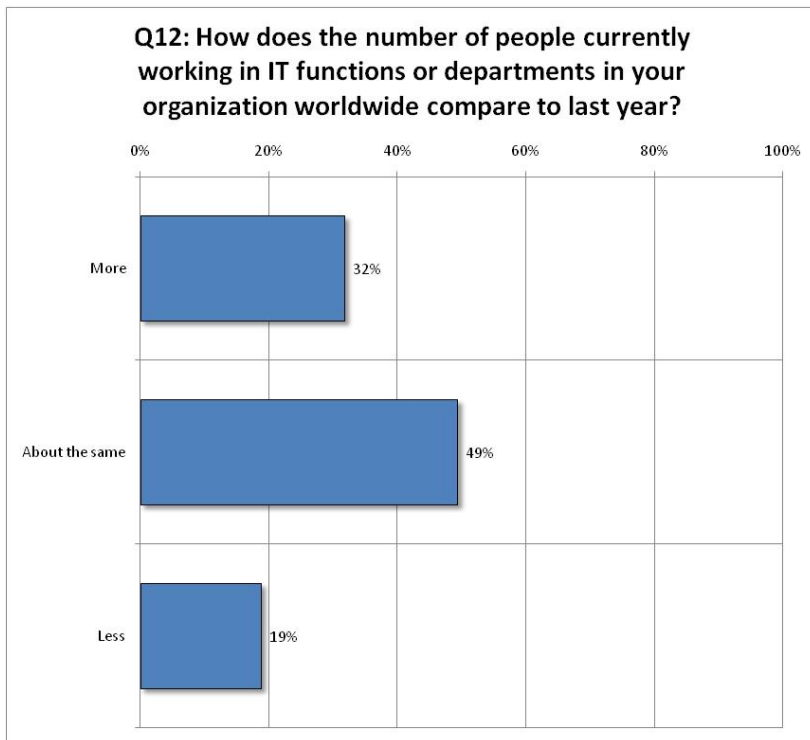
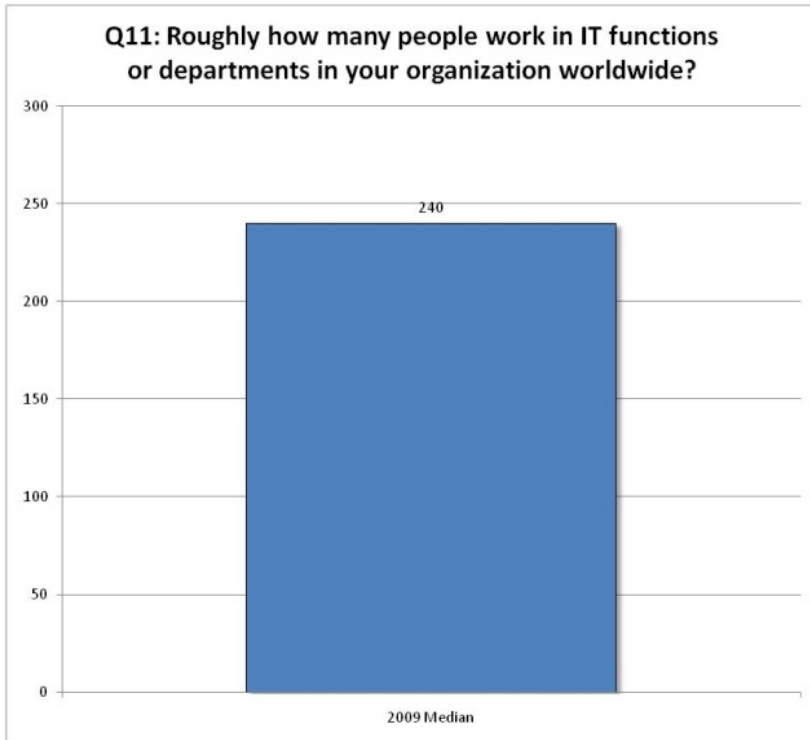


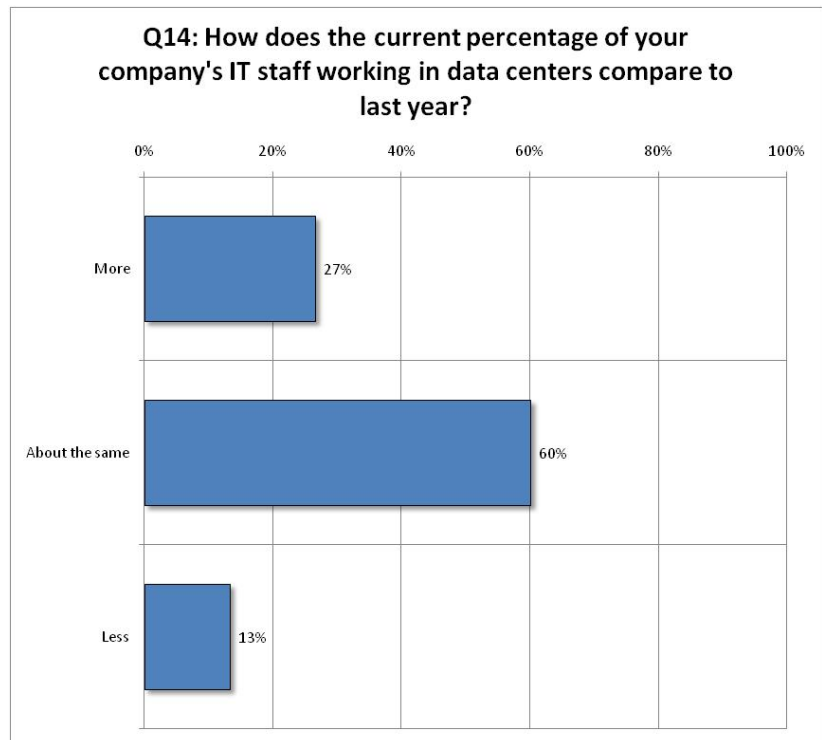
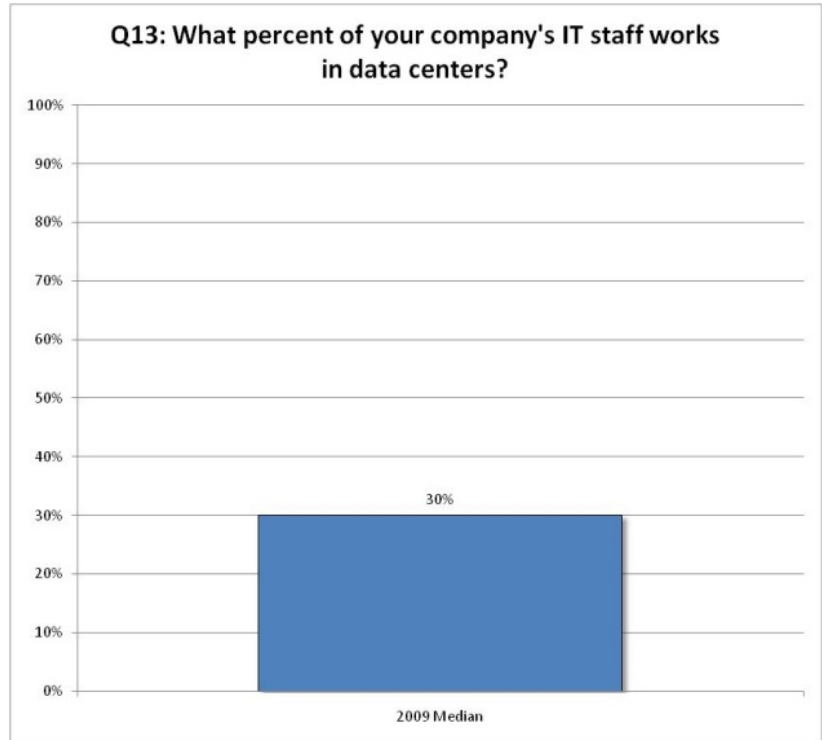
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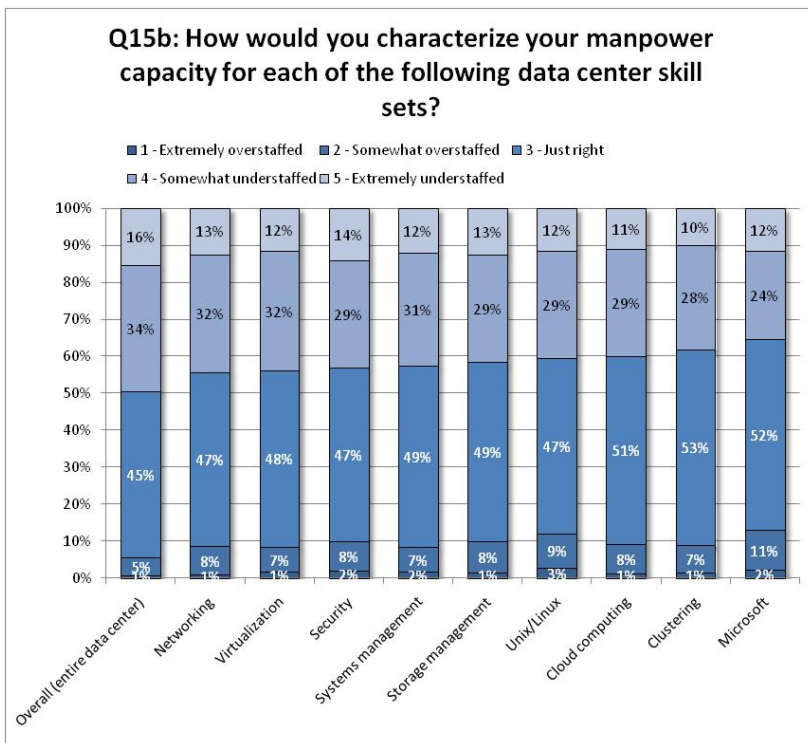
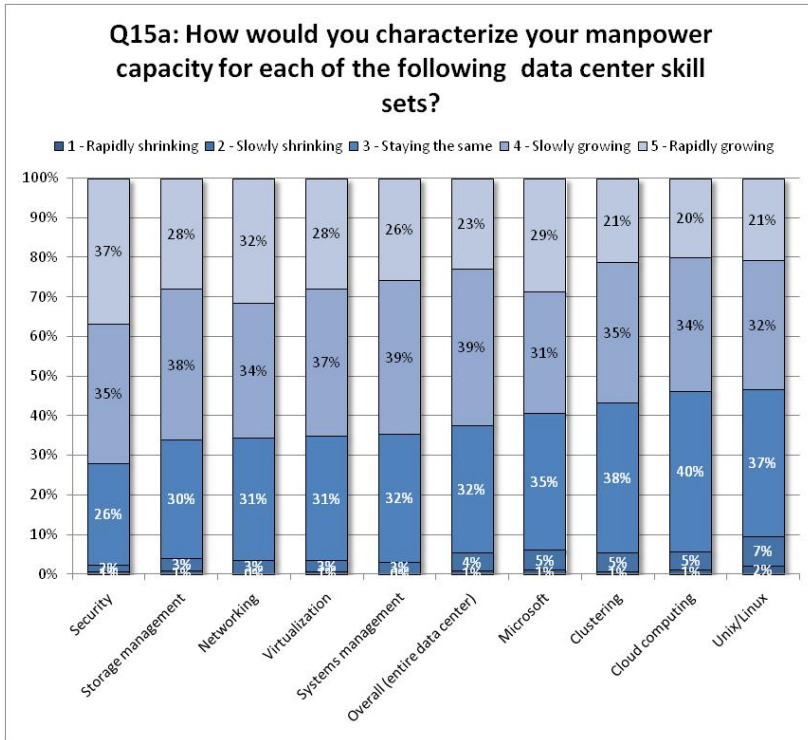




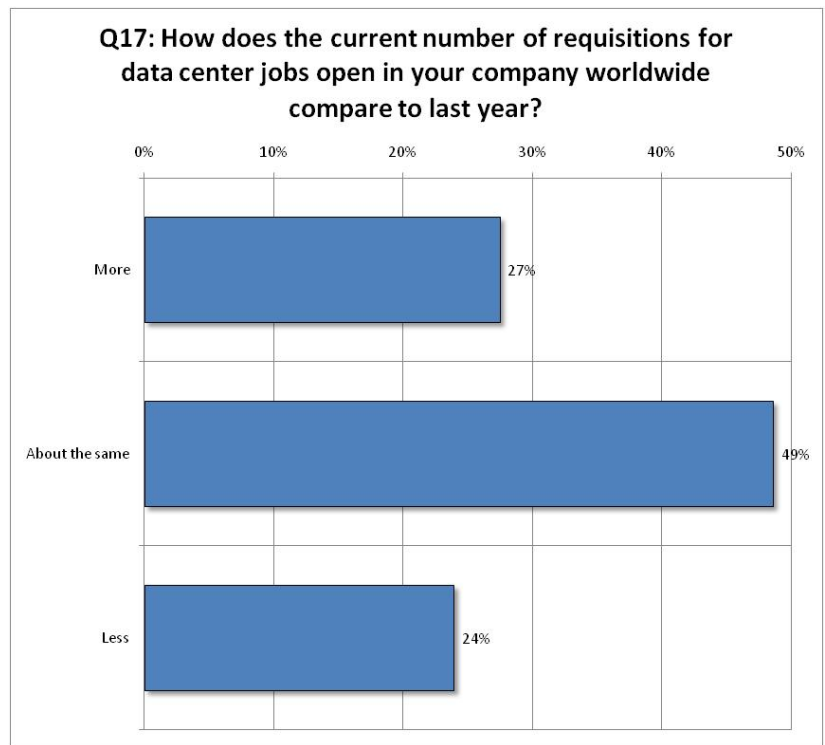
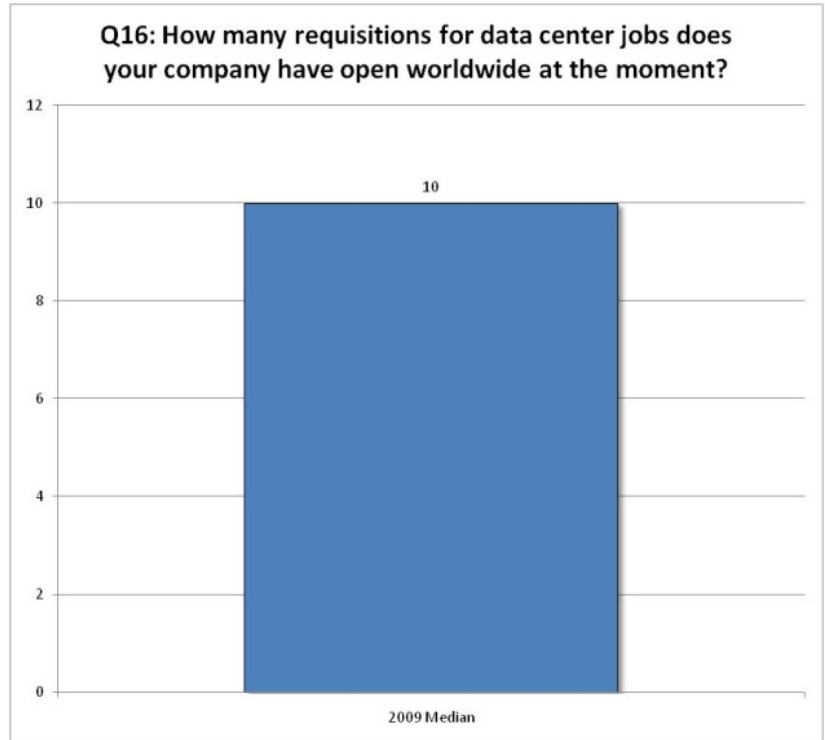
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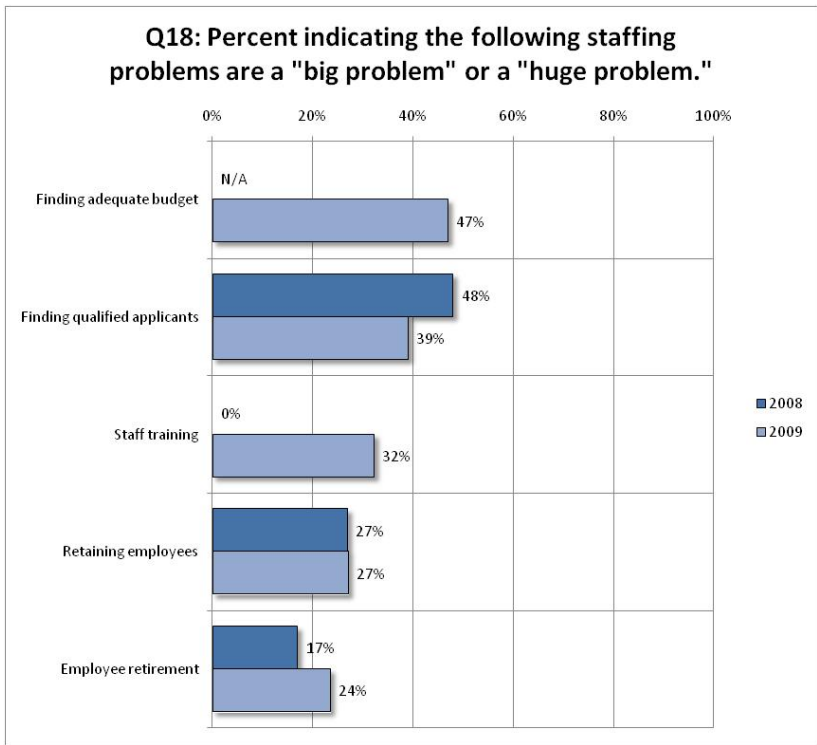
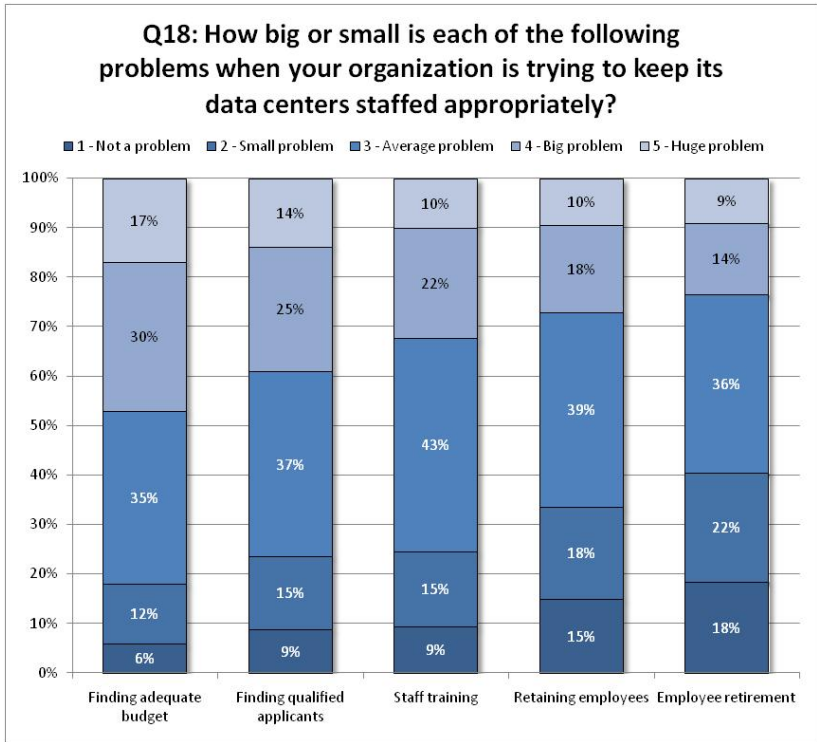


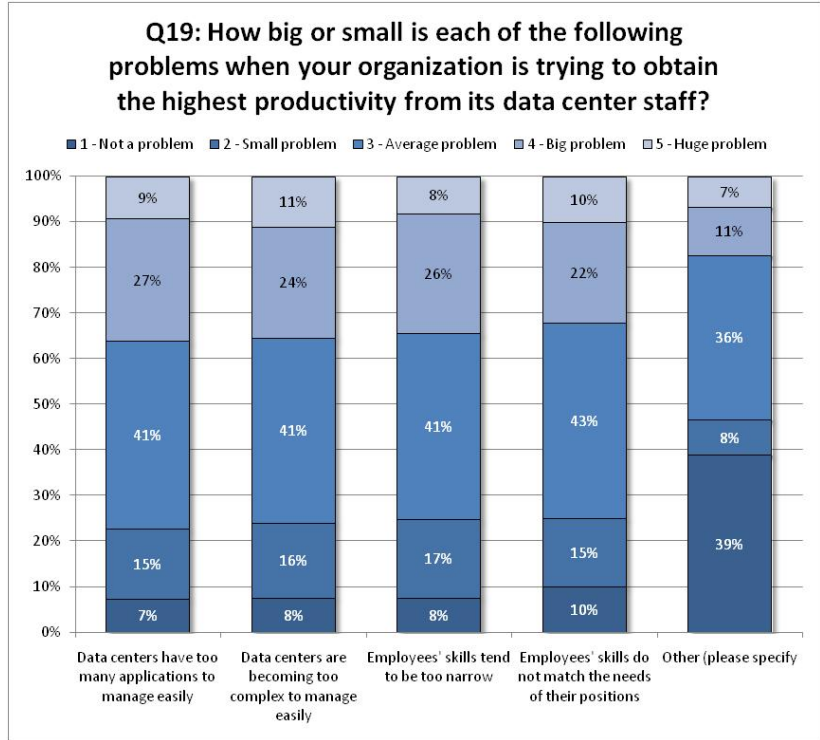




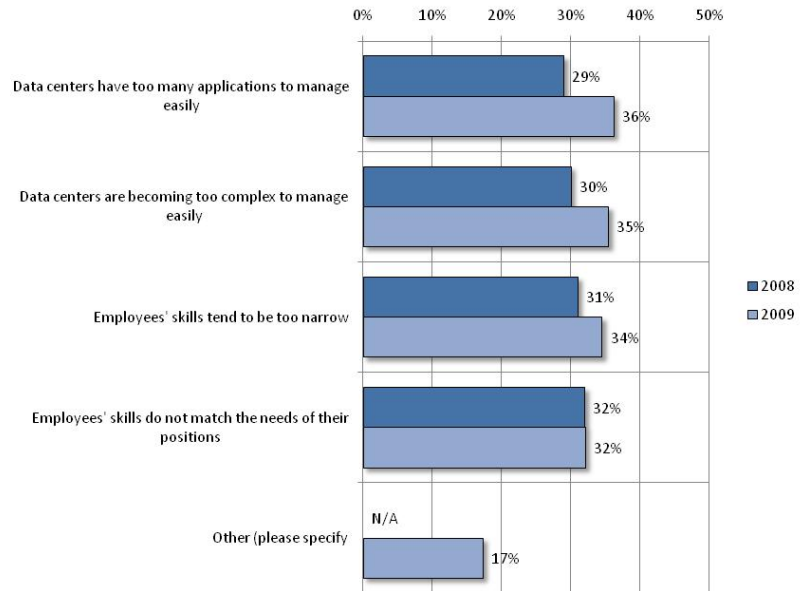


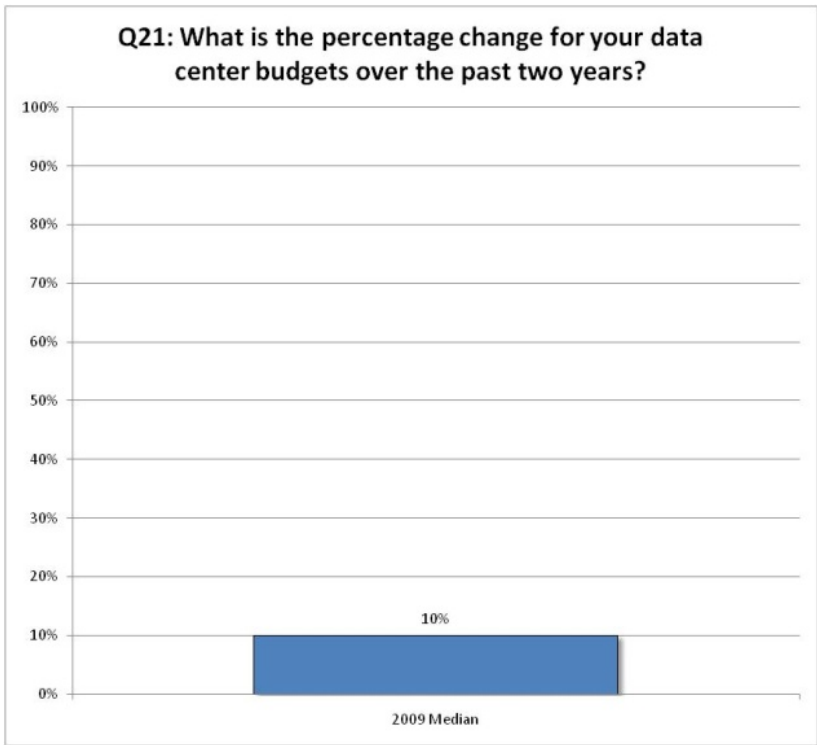
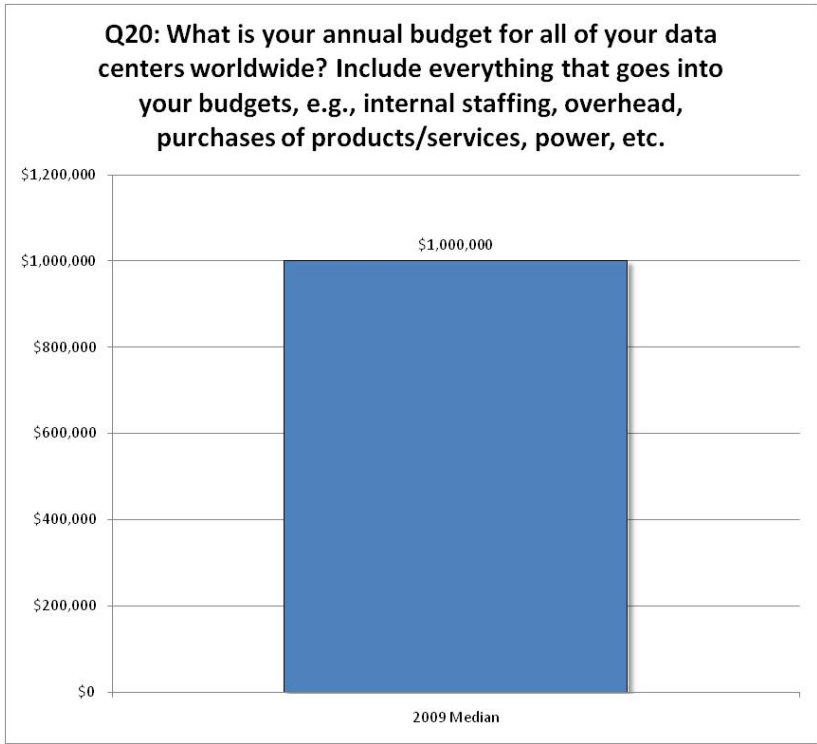


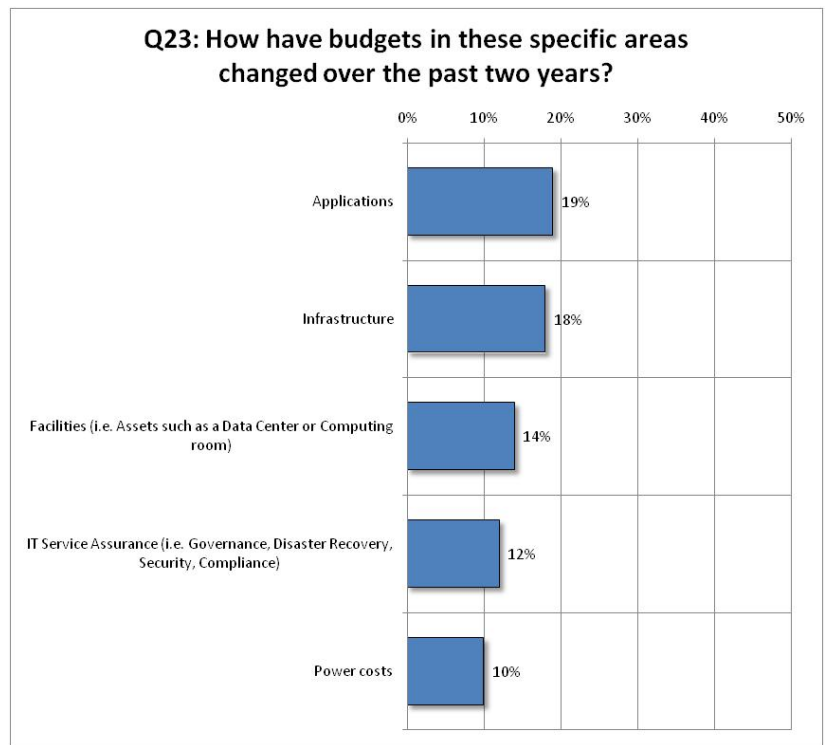
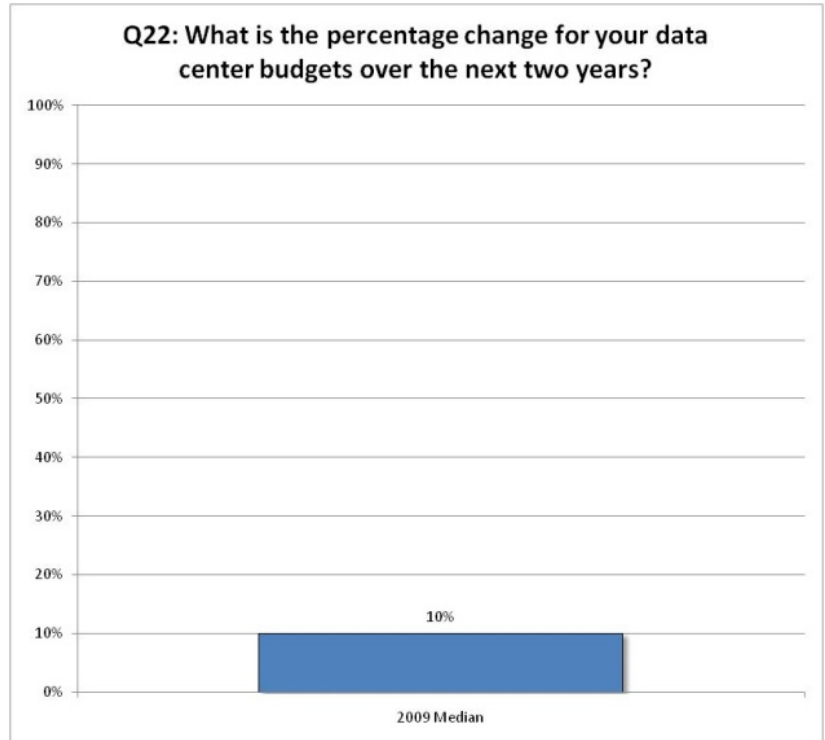


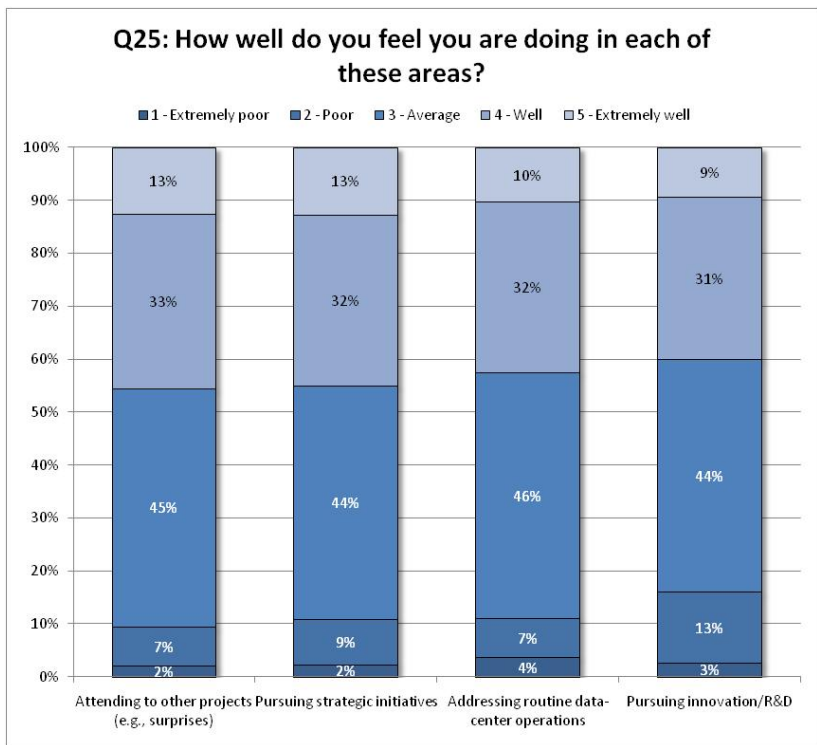
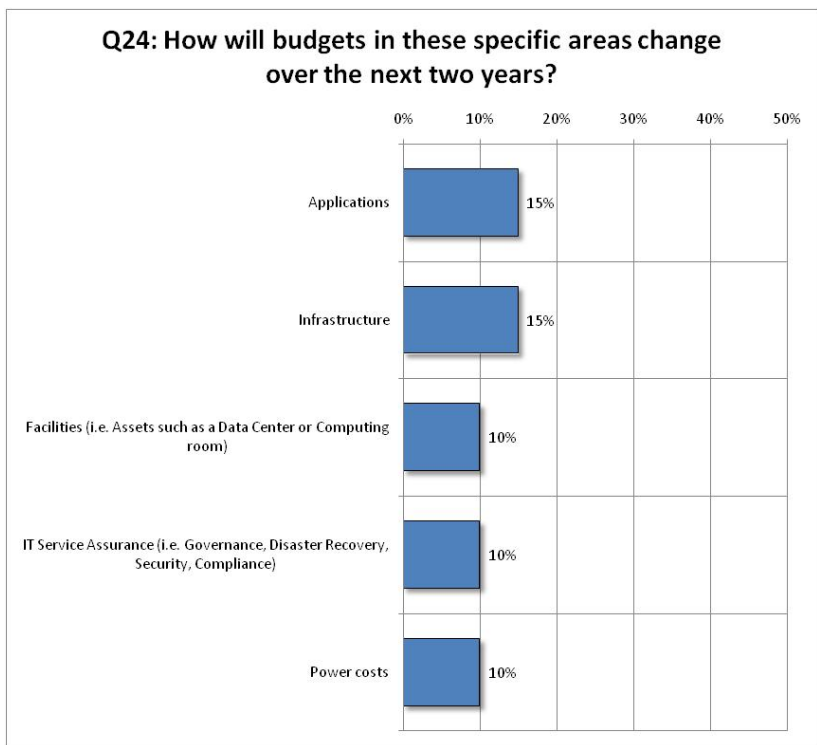


**Q19: Percent indicating that the following productivity problems are a "Big problem" or a "Huge problem."**

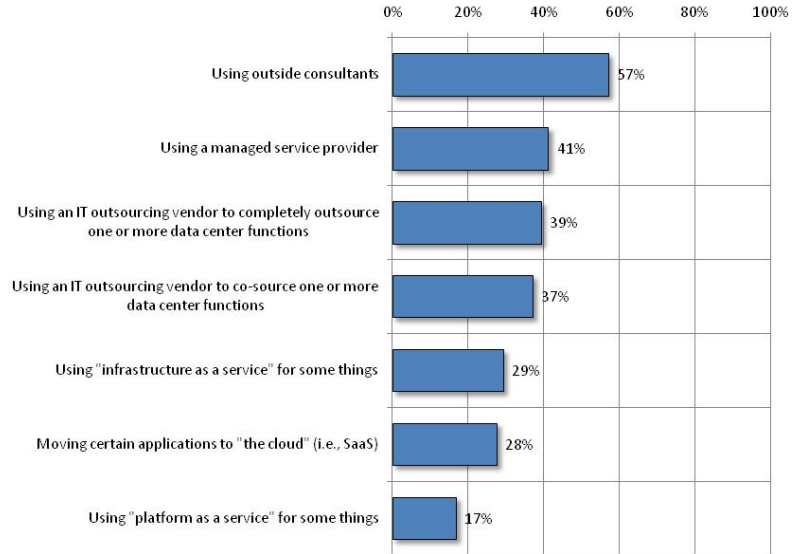




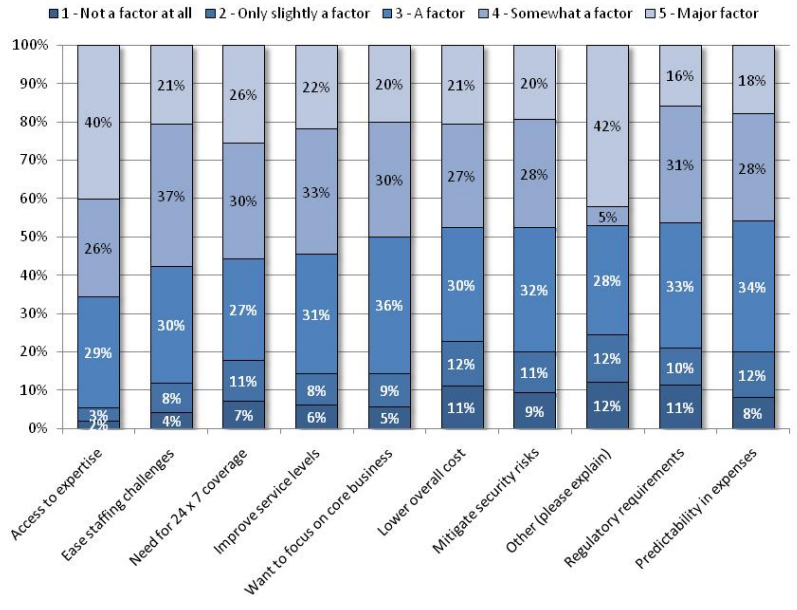


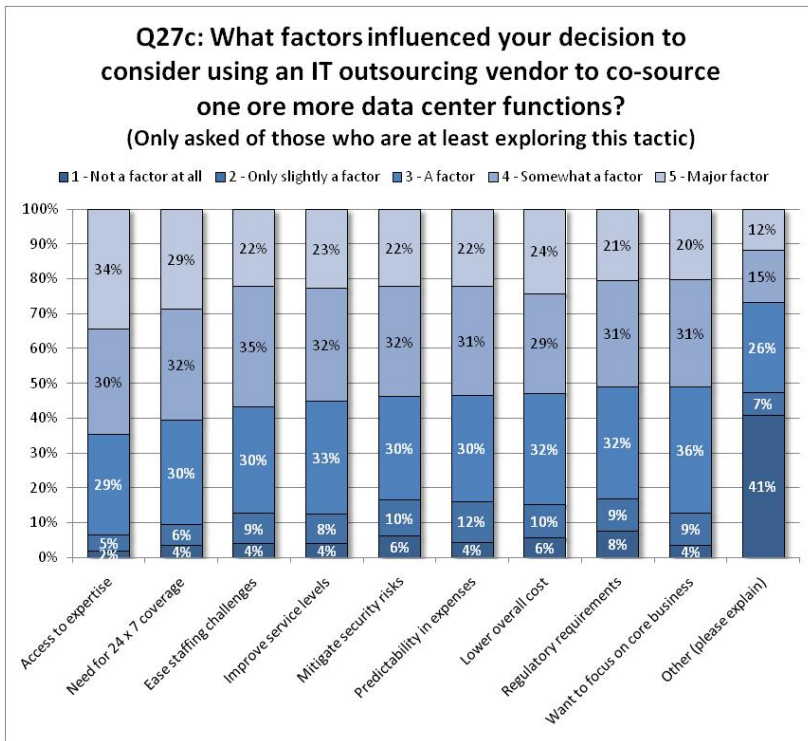
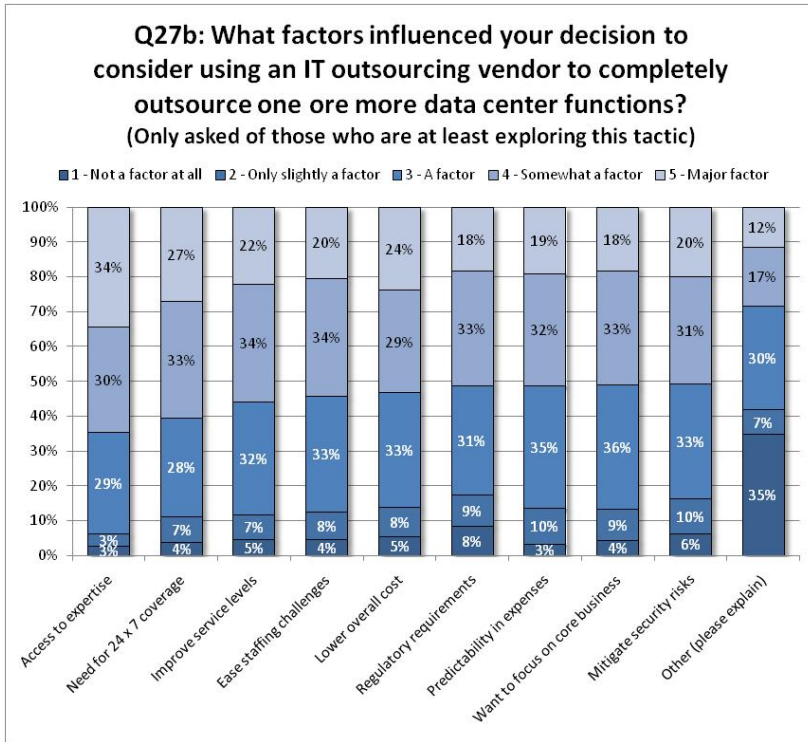


**Q26: What methods -- if any -- do you use to augment your internal staff's capacity in order to accomplish more than you could on your own? Please select all that apply.**

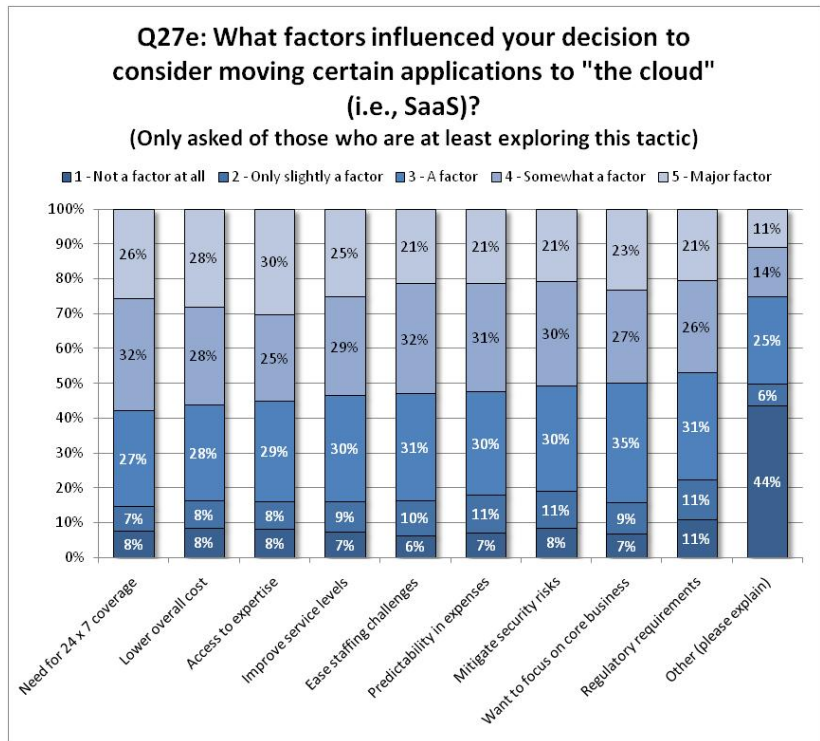
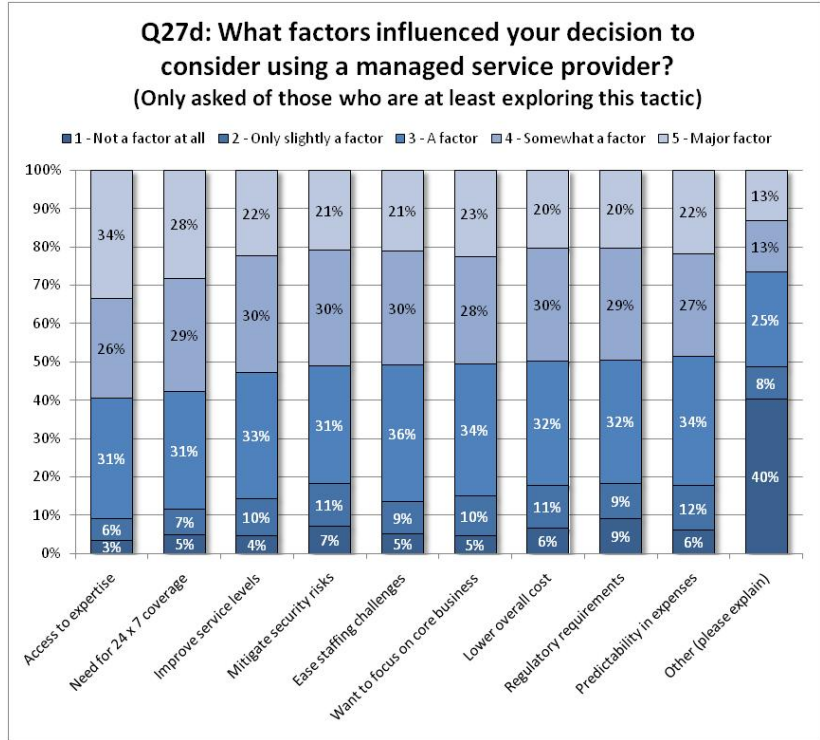


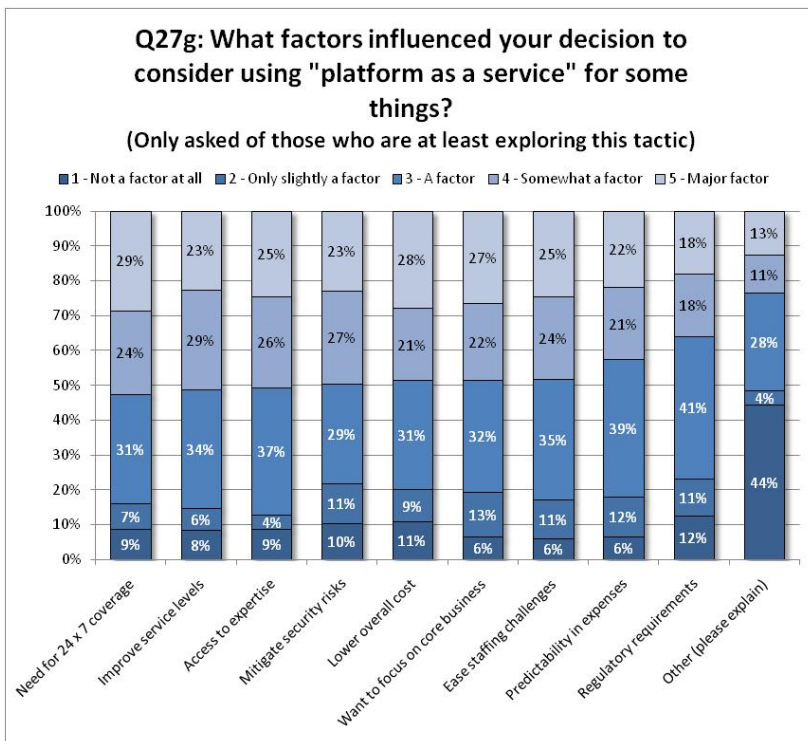
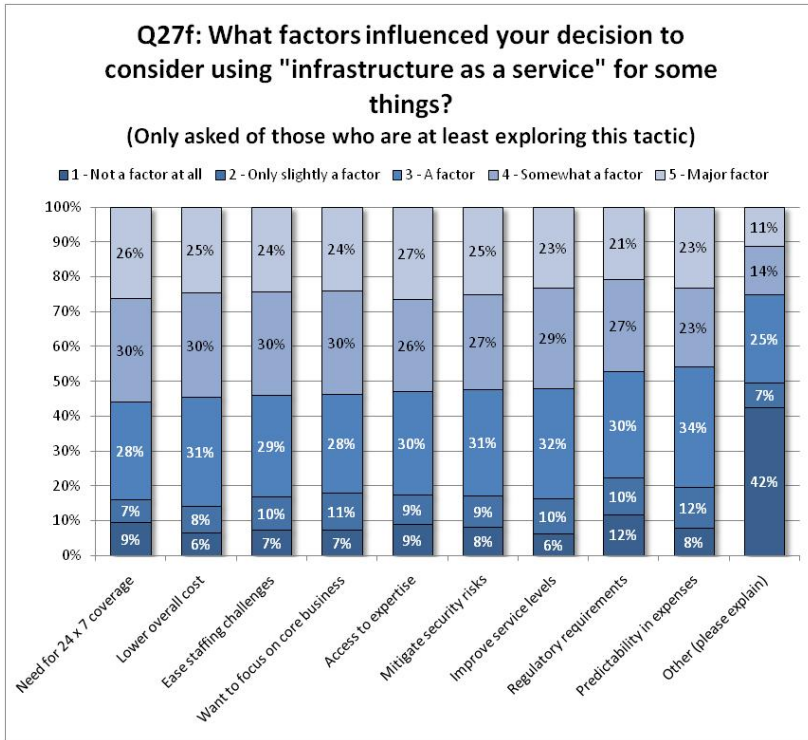
**Q27a: What factors influenced your decision to consider using outside consultants? (Only asked of those who are at least exploring this tactic)**

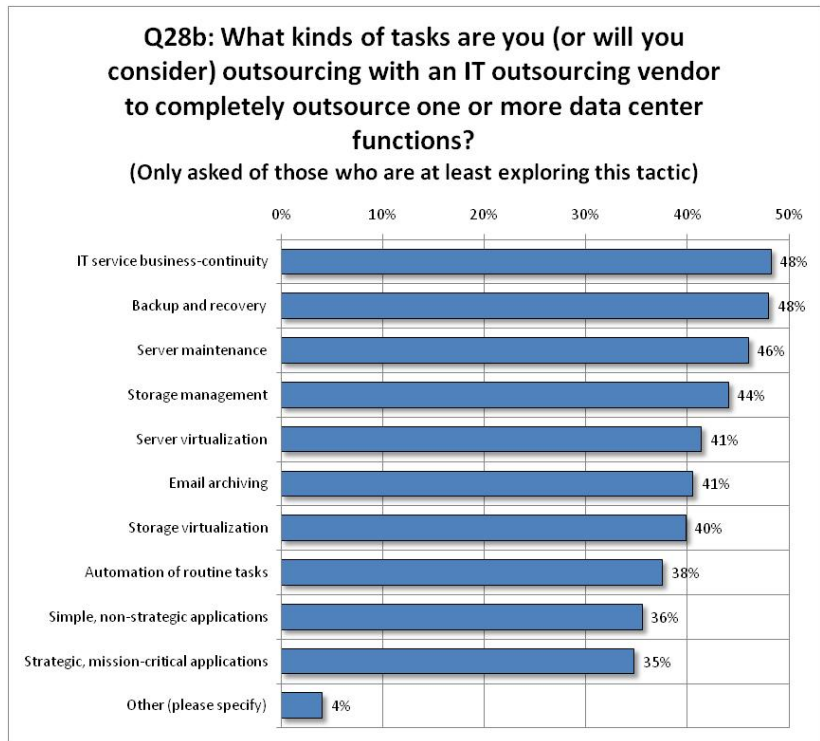
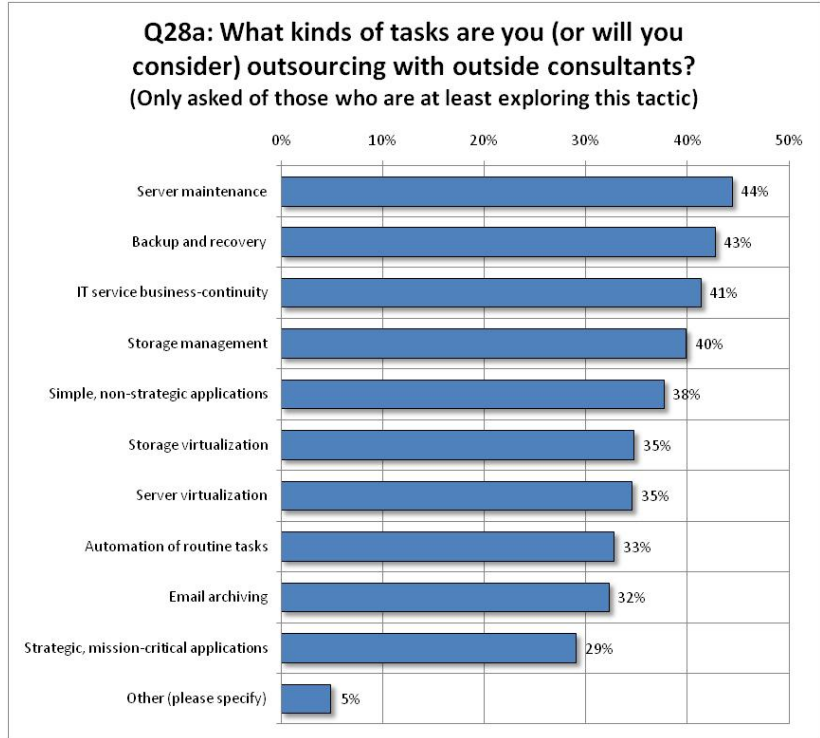




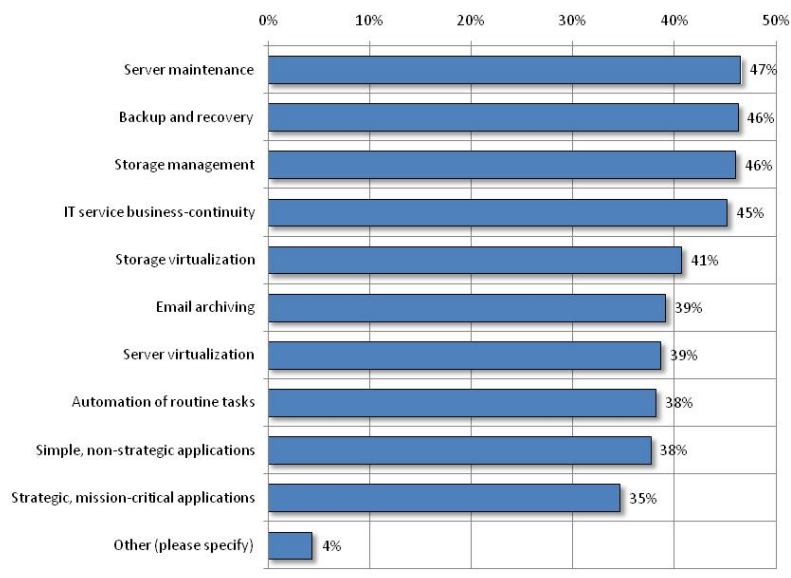




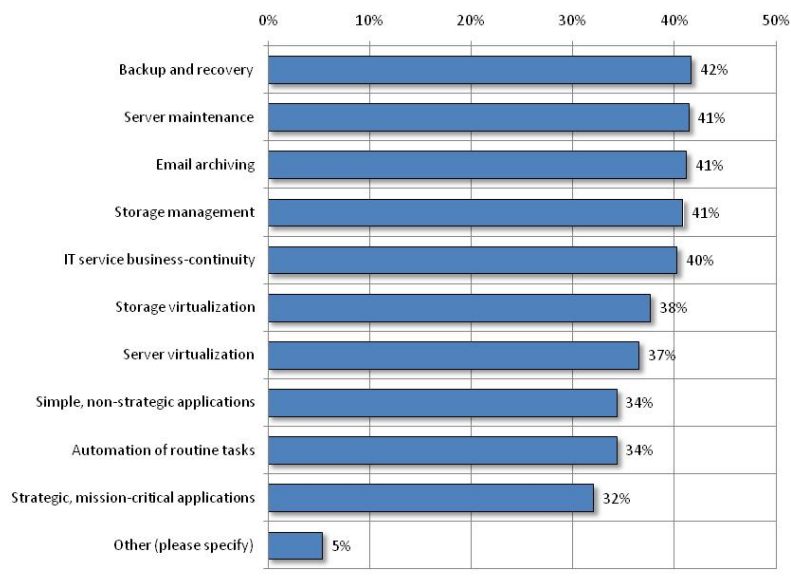


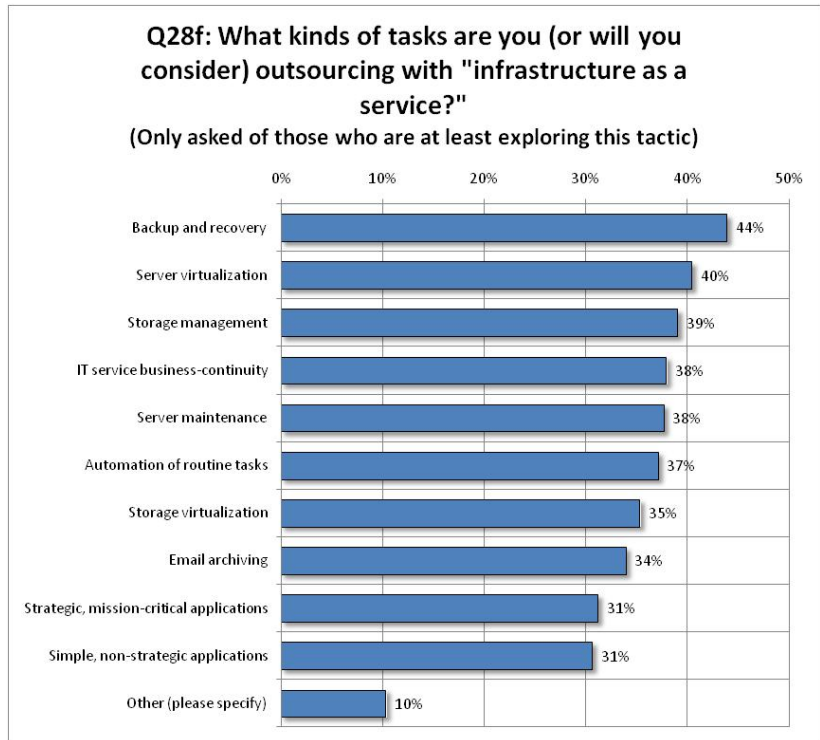
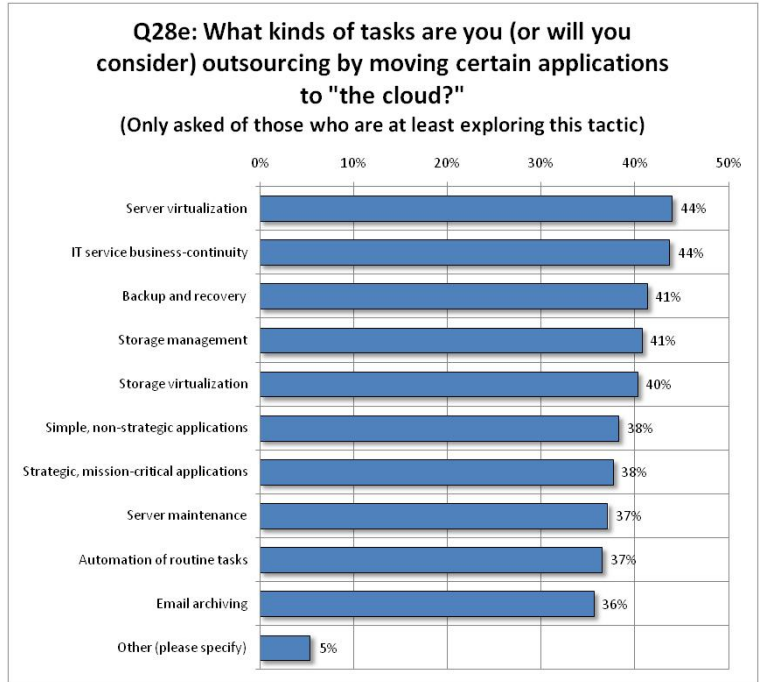


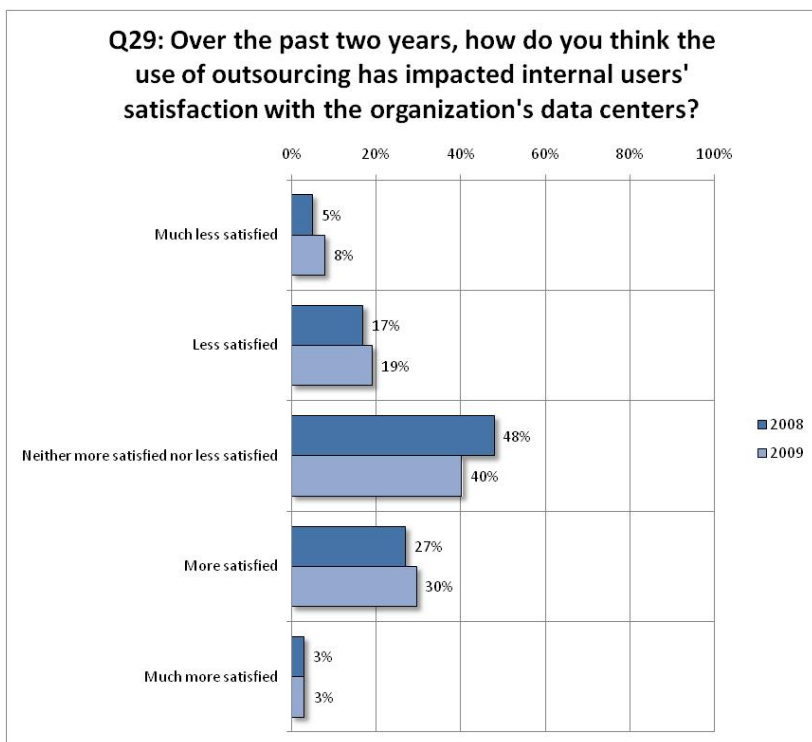
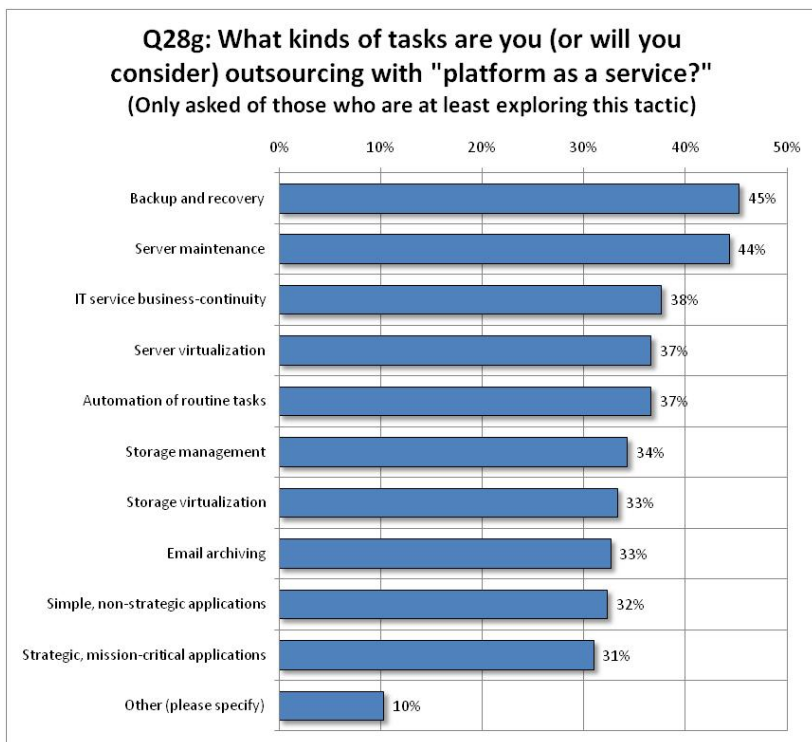
**Q28c: What kinds of tasks are you (or will you consider) outsourcing with an IT outsourcing vendor to co-source one or more data center functions? (Only asked of those who are at least exploring this tactic)**

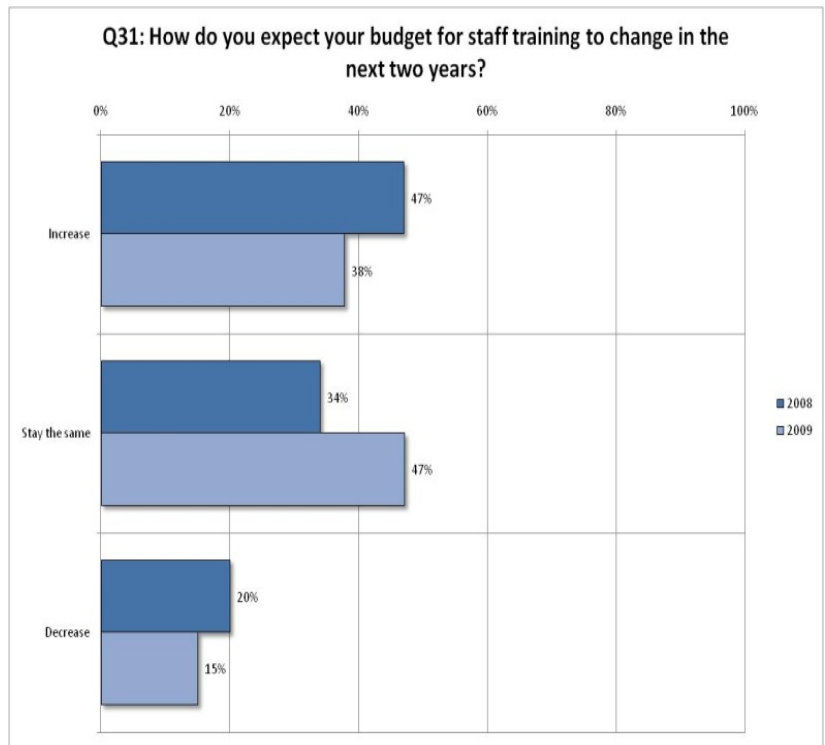
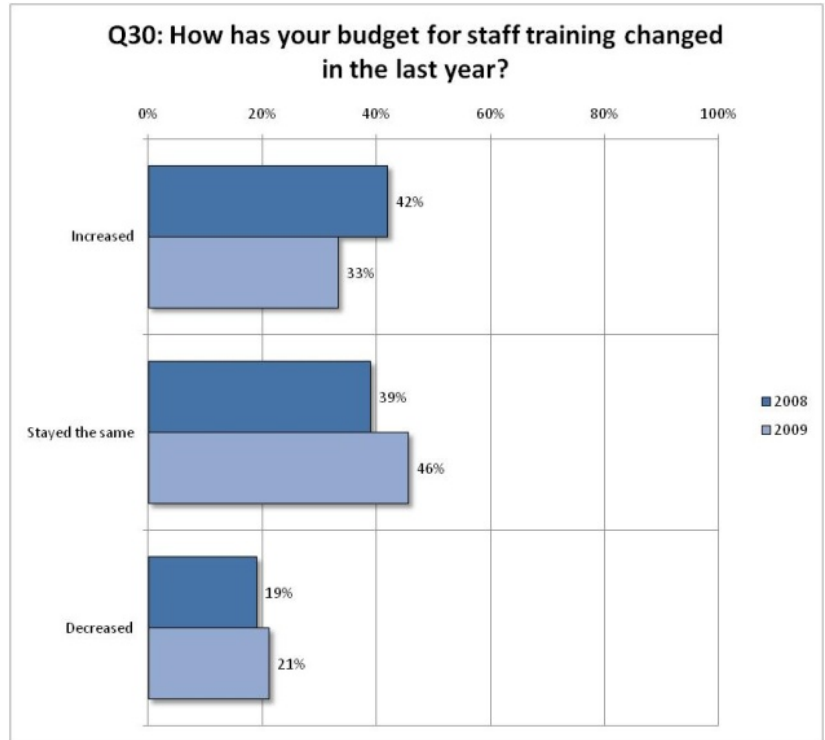


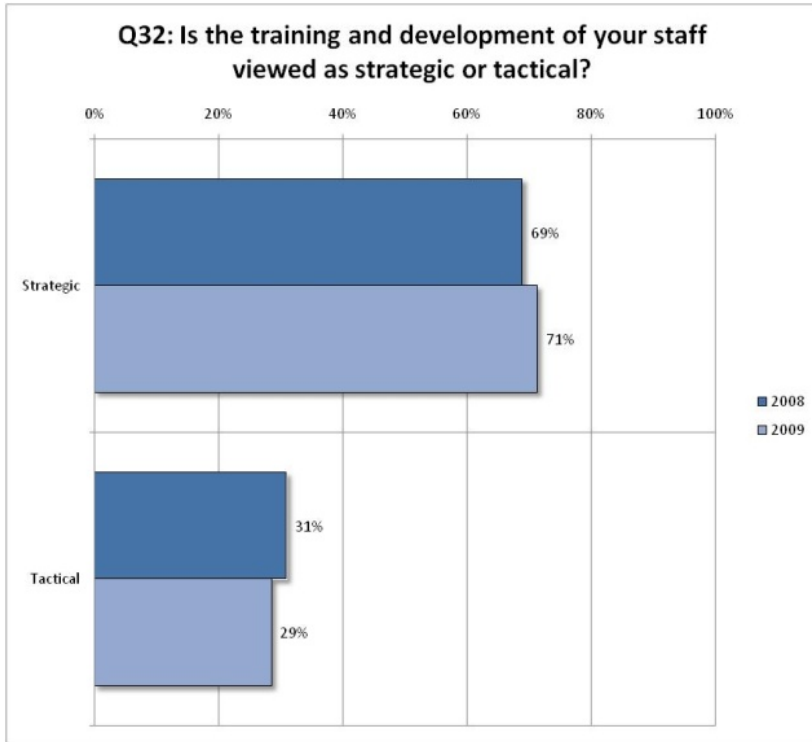
**Q28d: What kinds of tasks are you (or will you consider) outsourcing with a managed service provider? (Only asked of those who are at least exploring this tactic)**





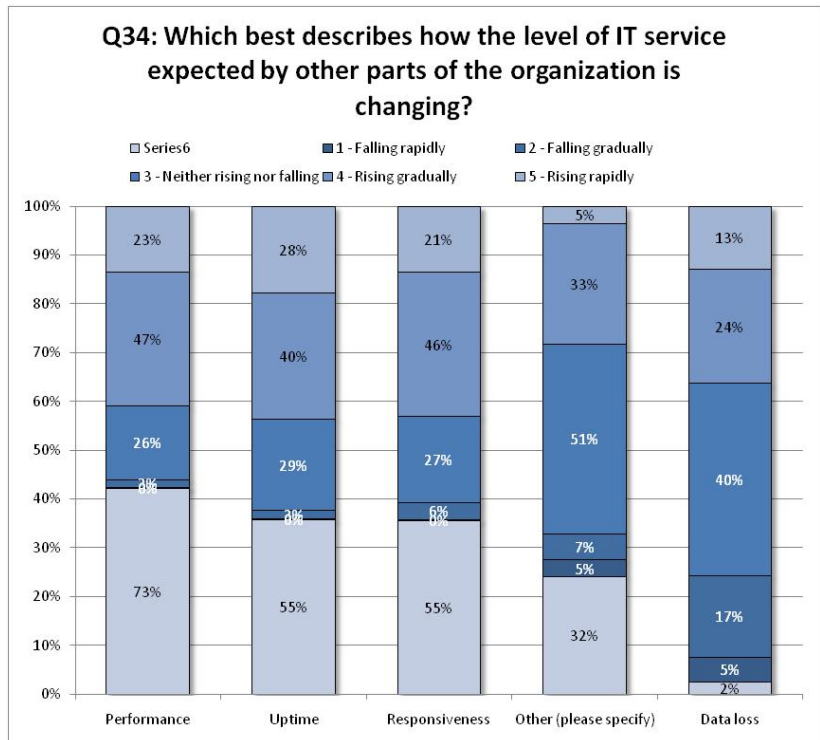
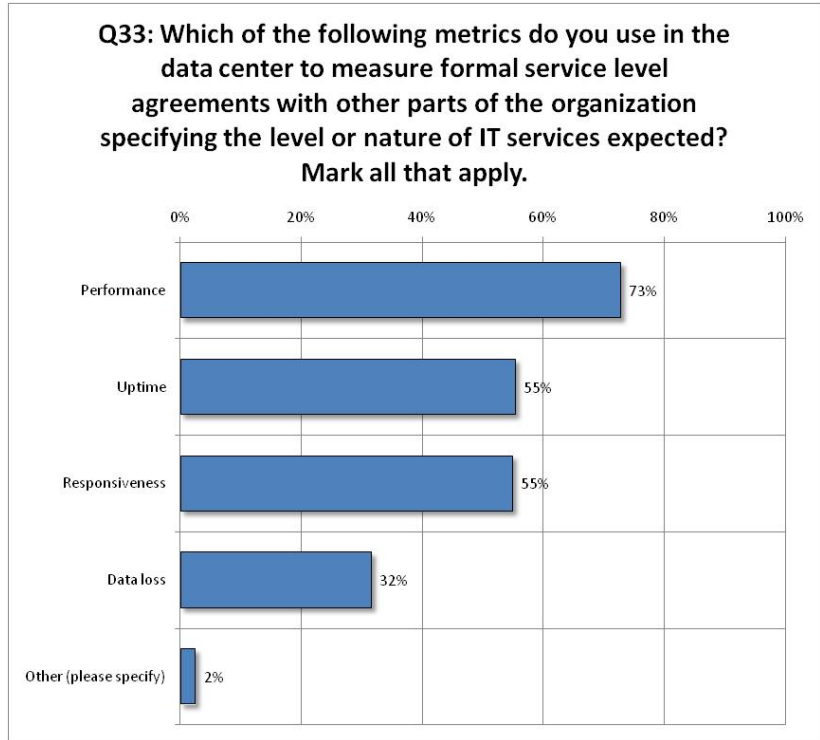


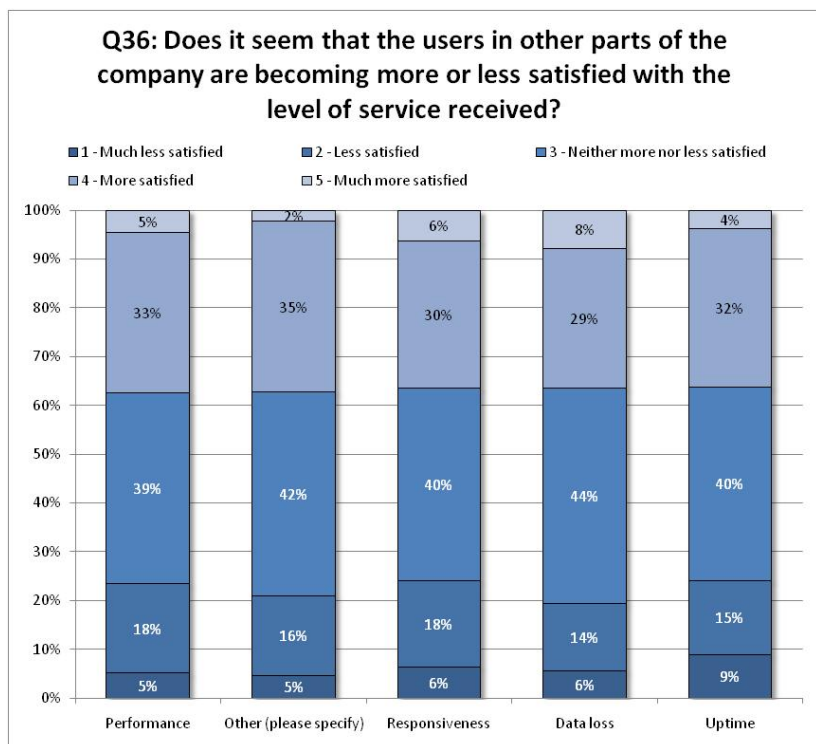
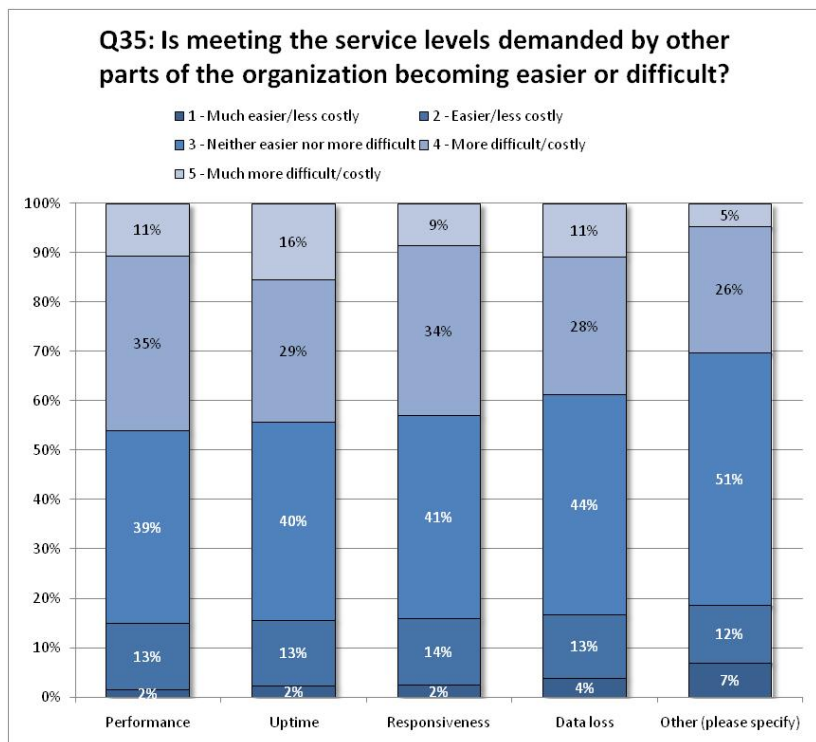




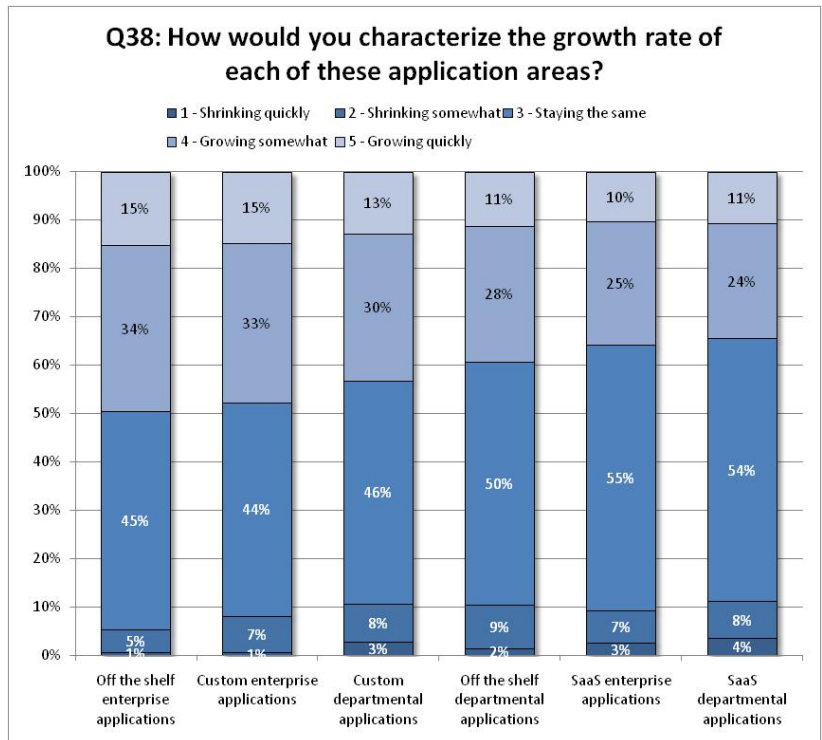
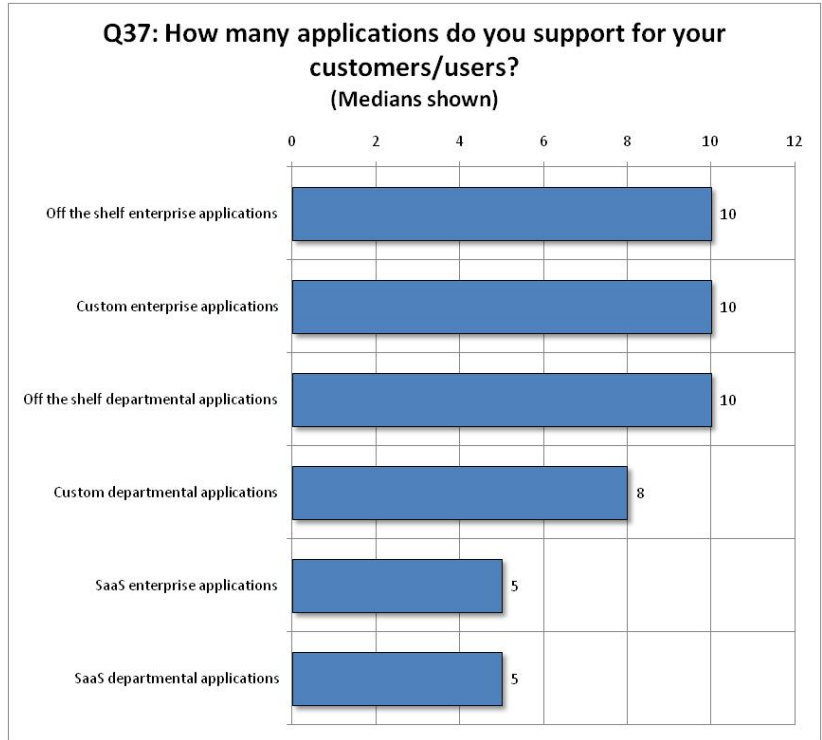


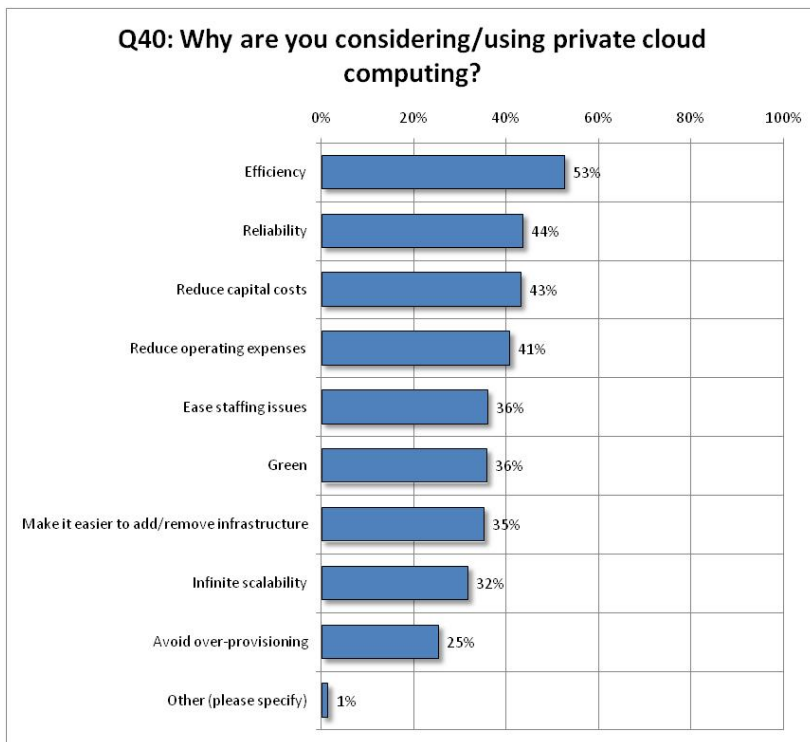
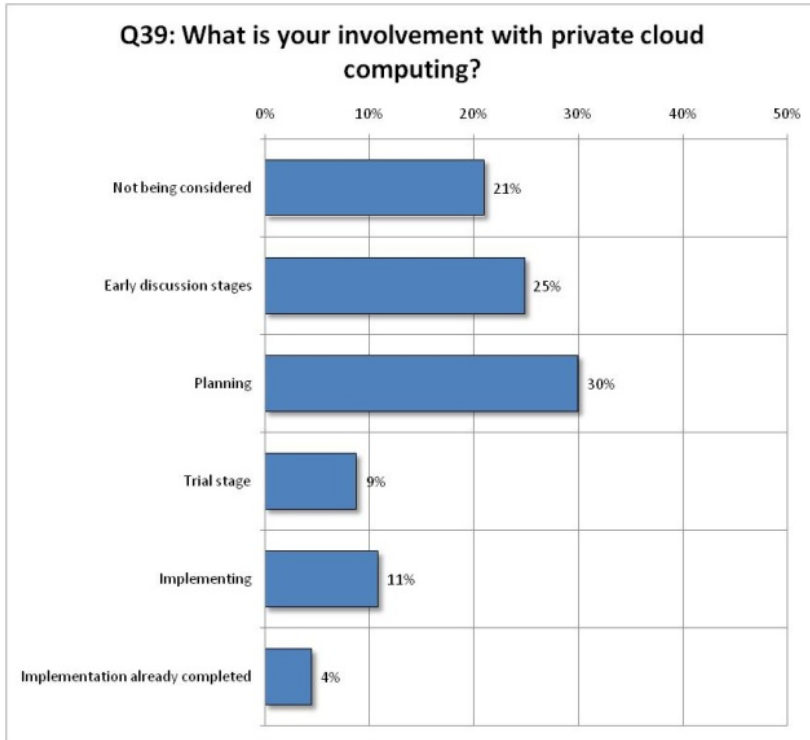
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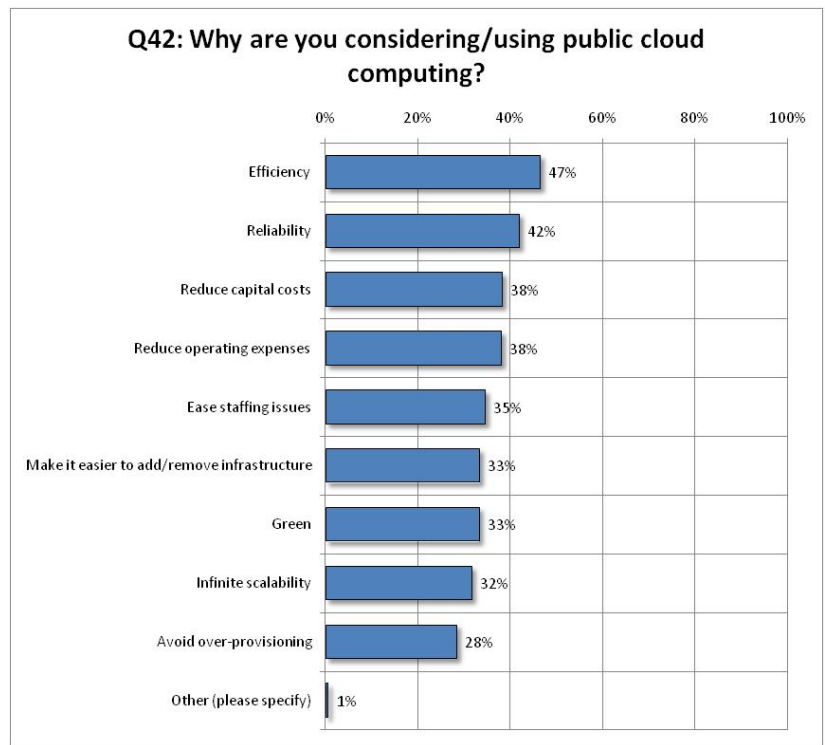
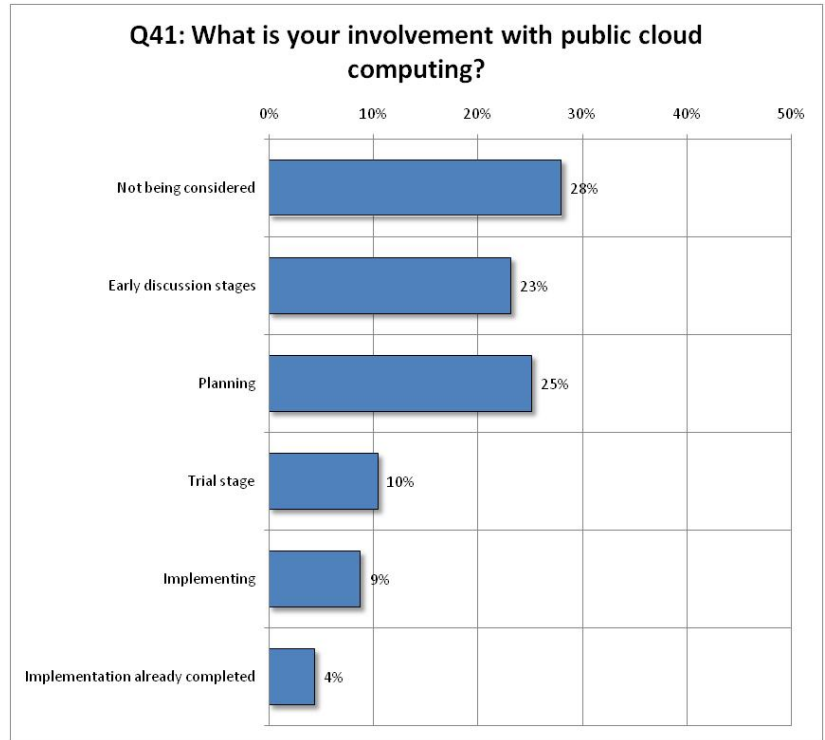


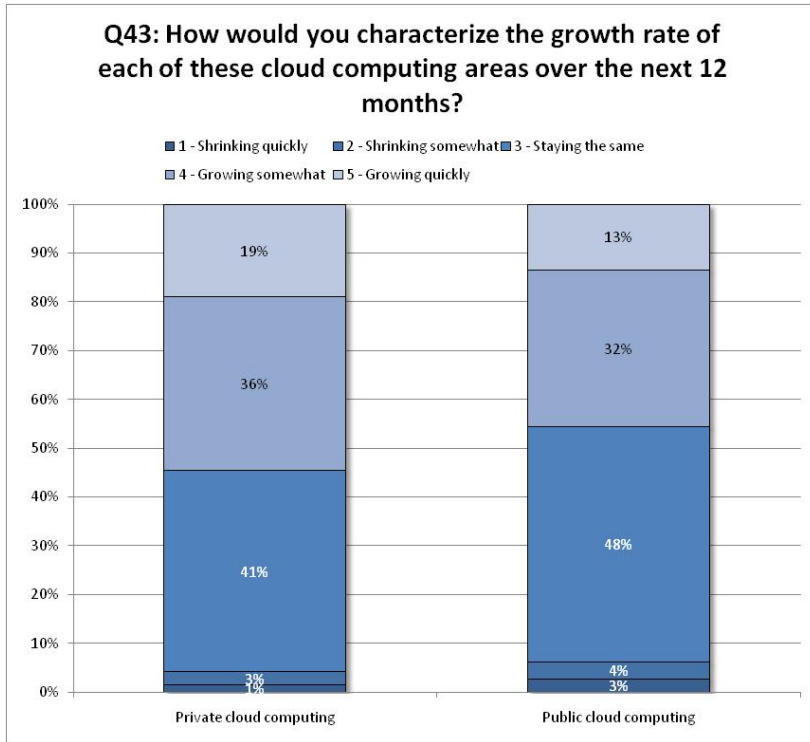


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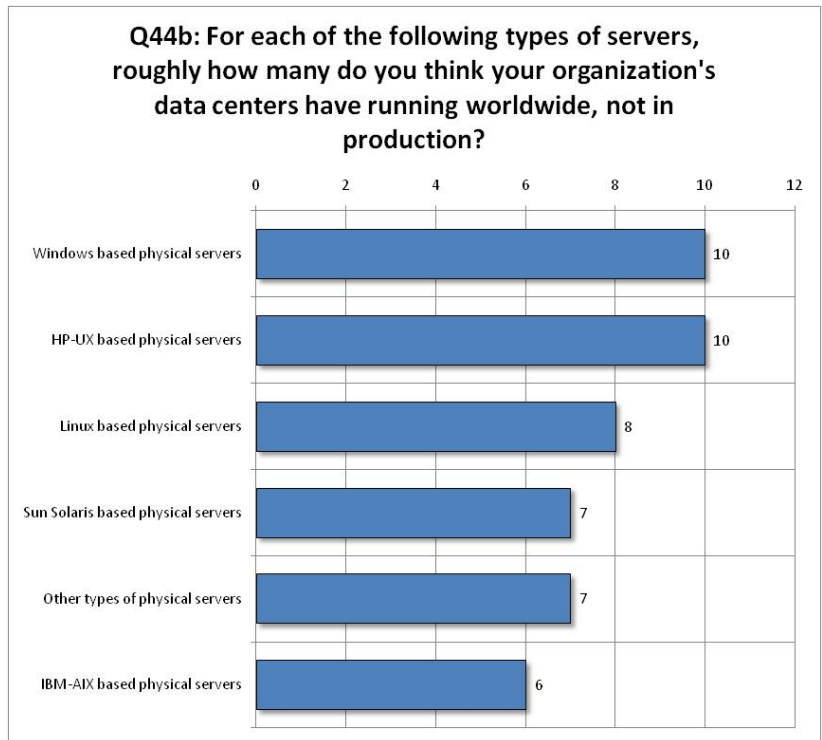
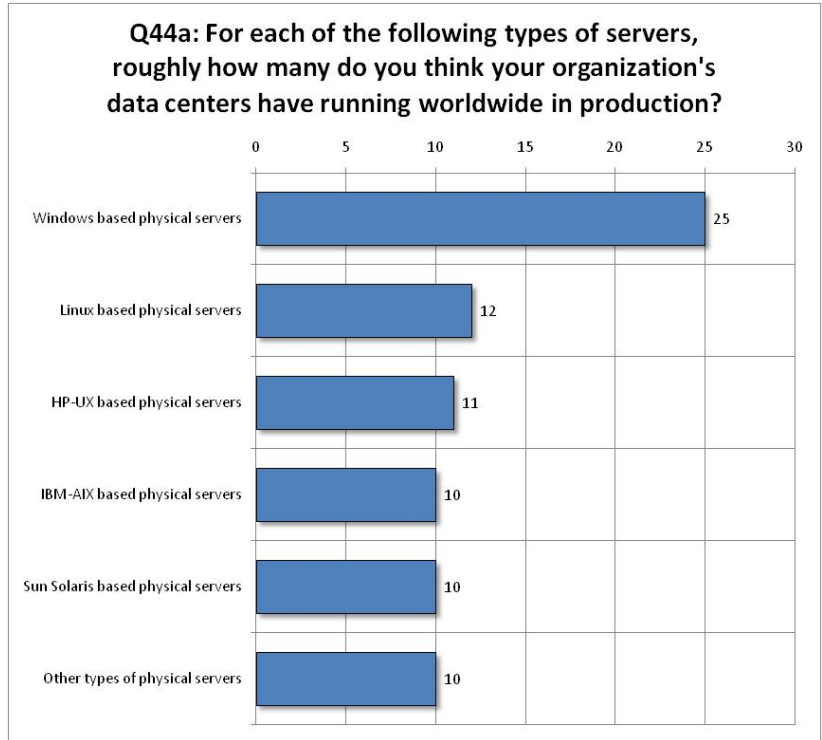


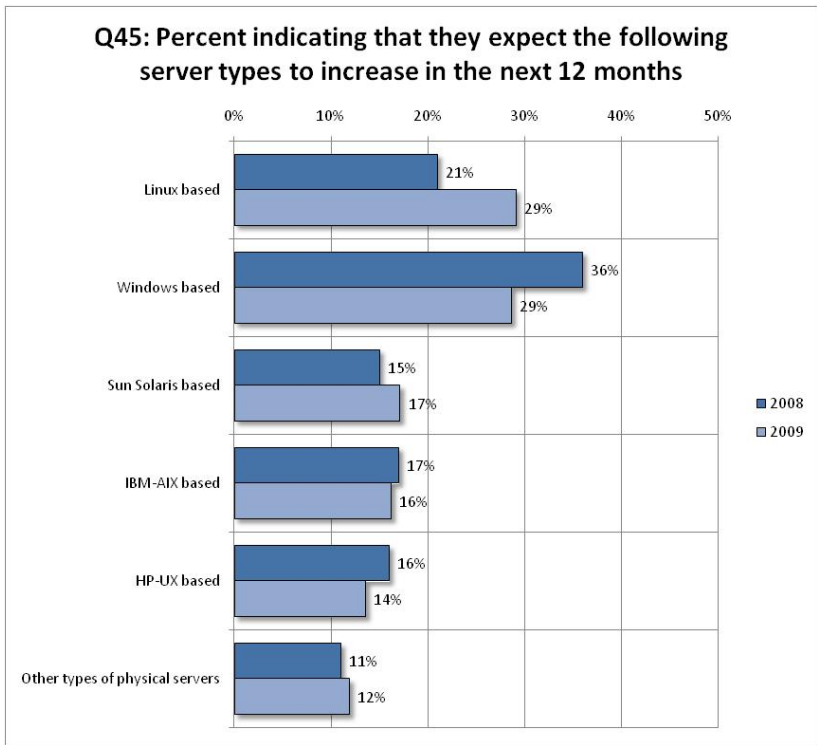
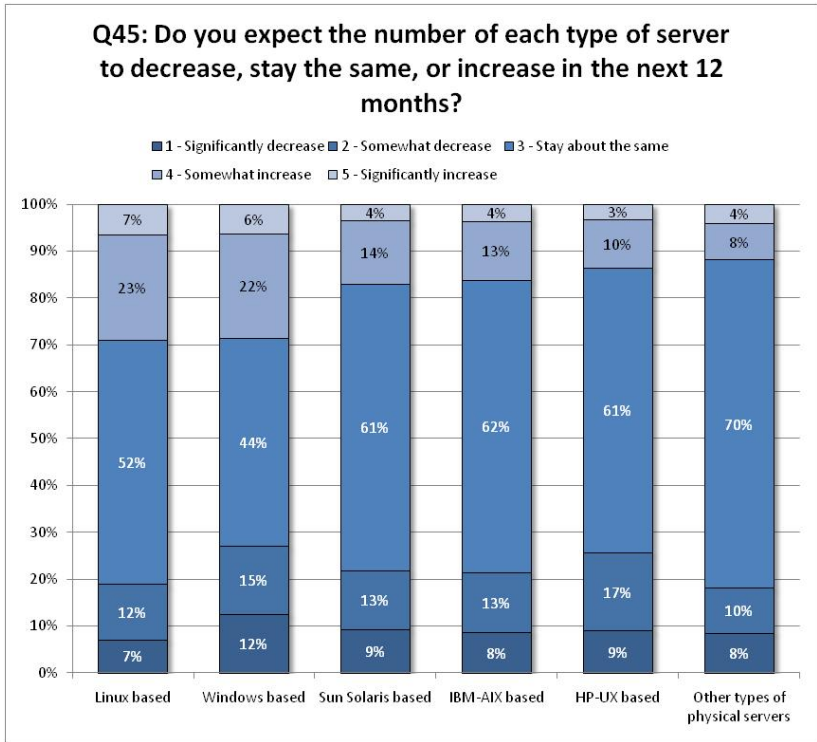




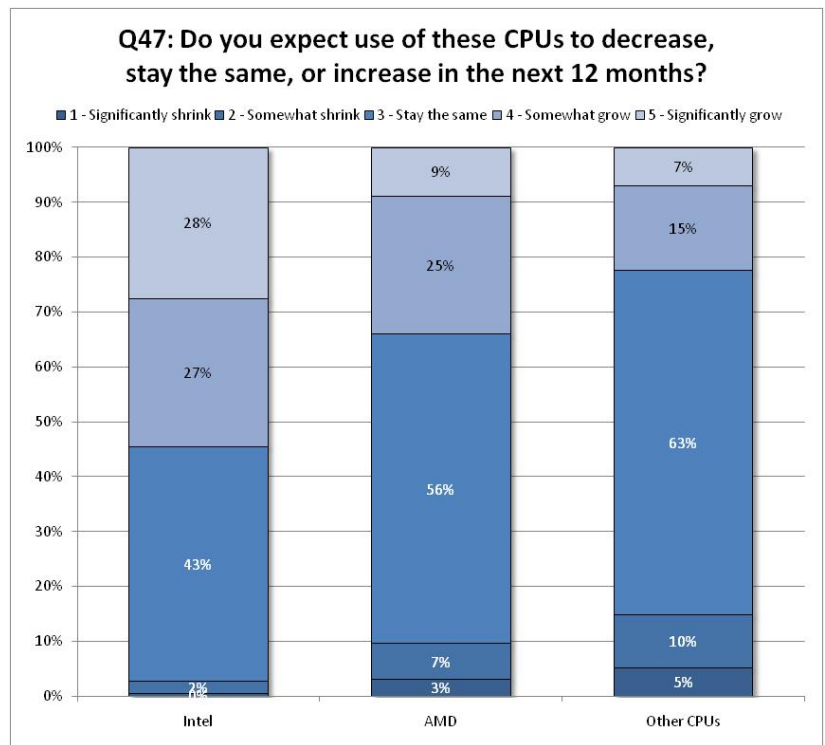
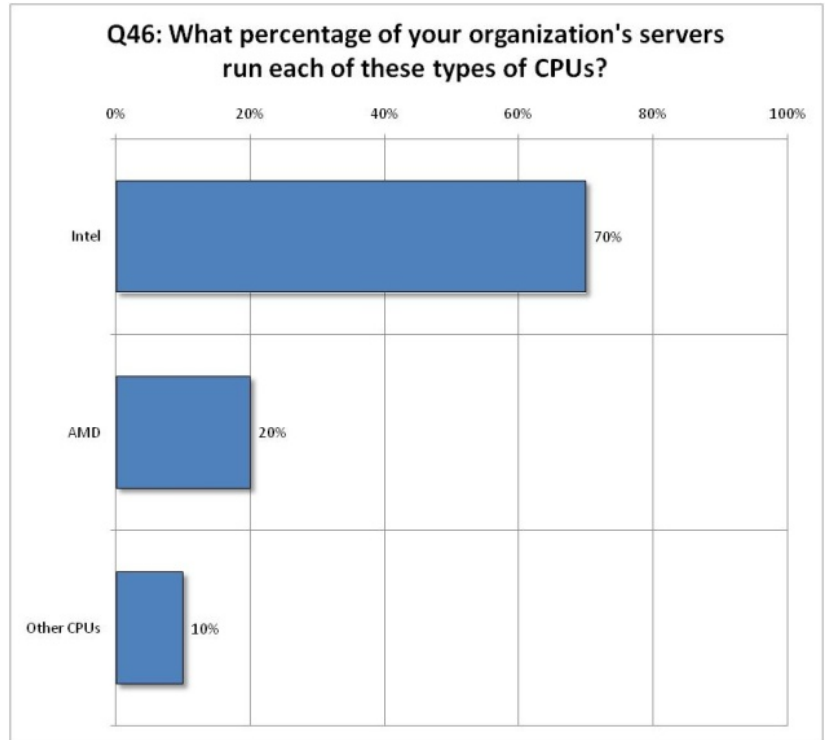


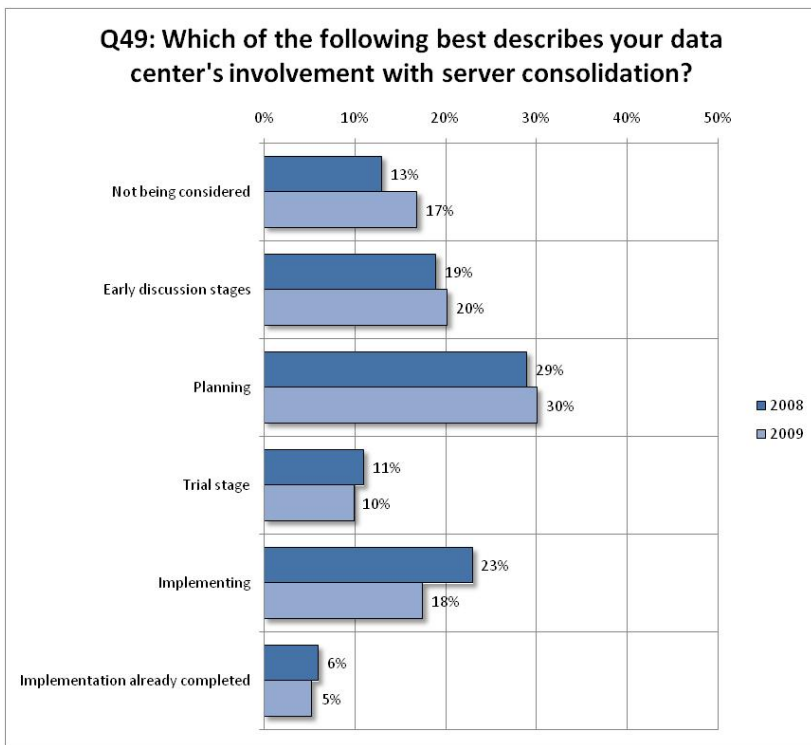
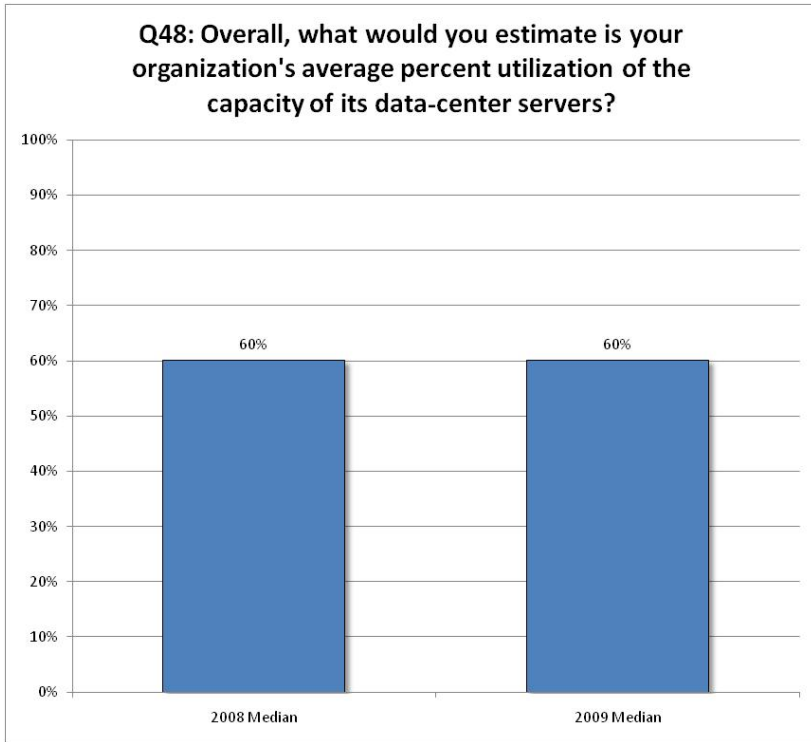
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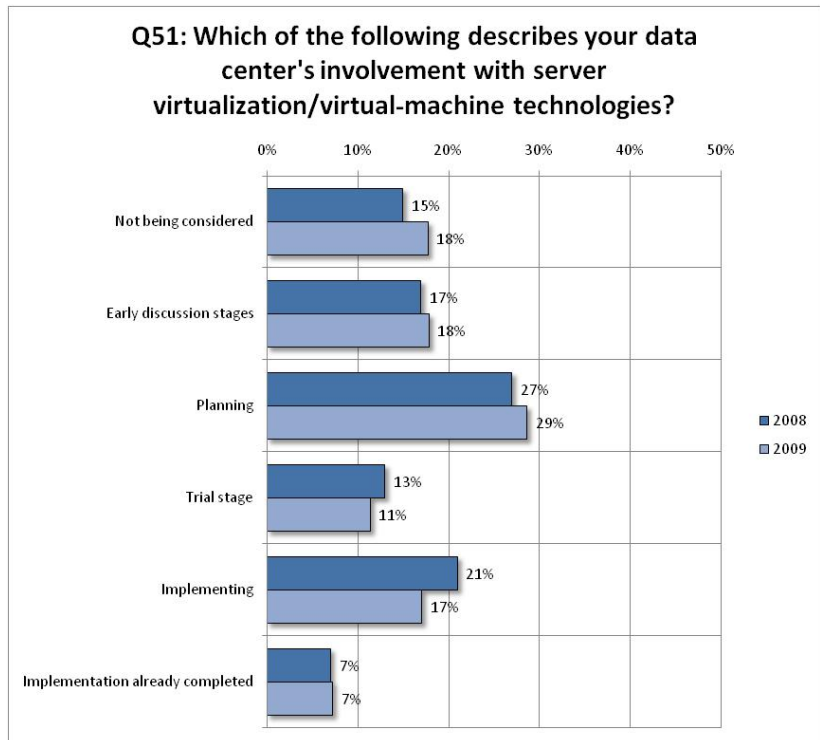
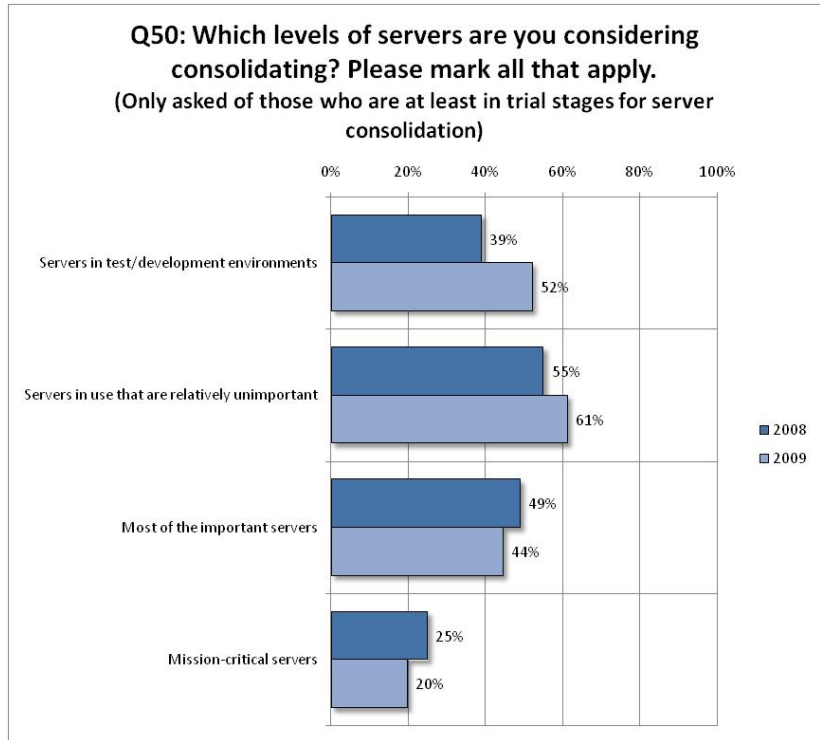


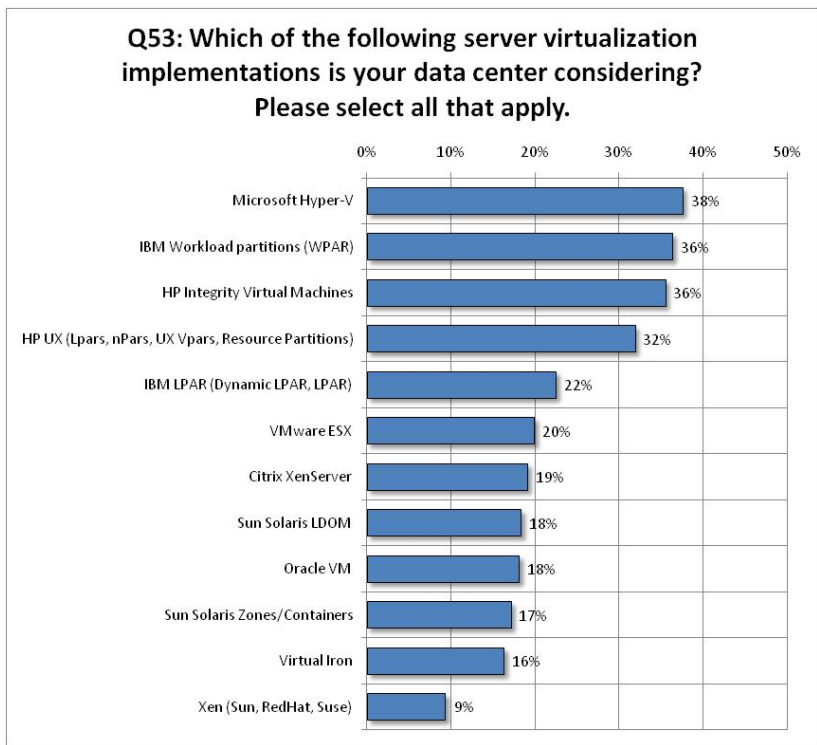
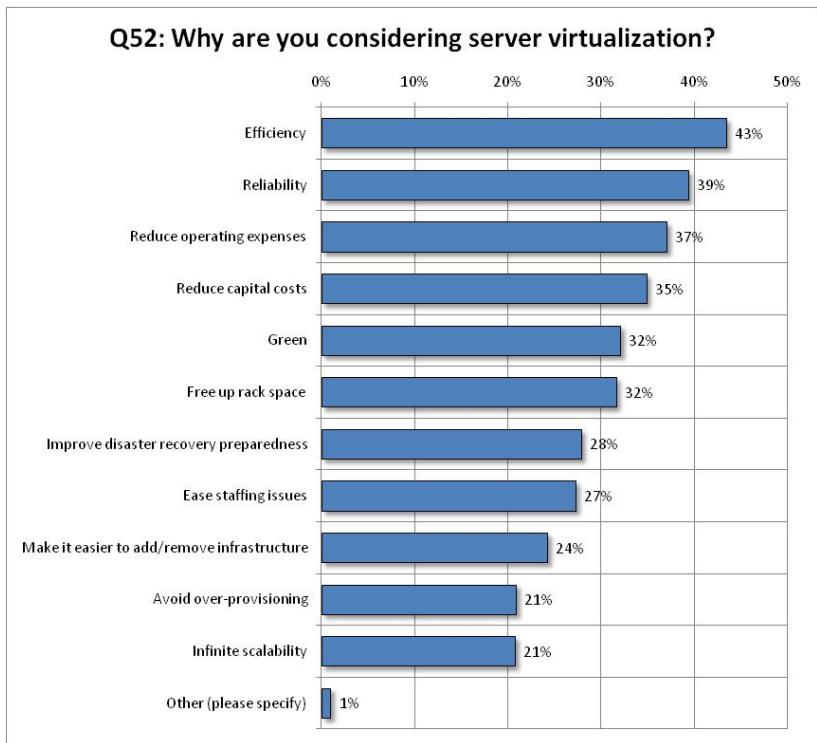


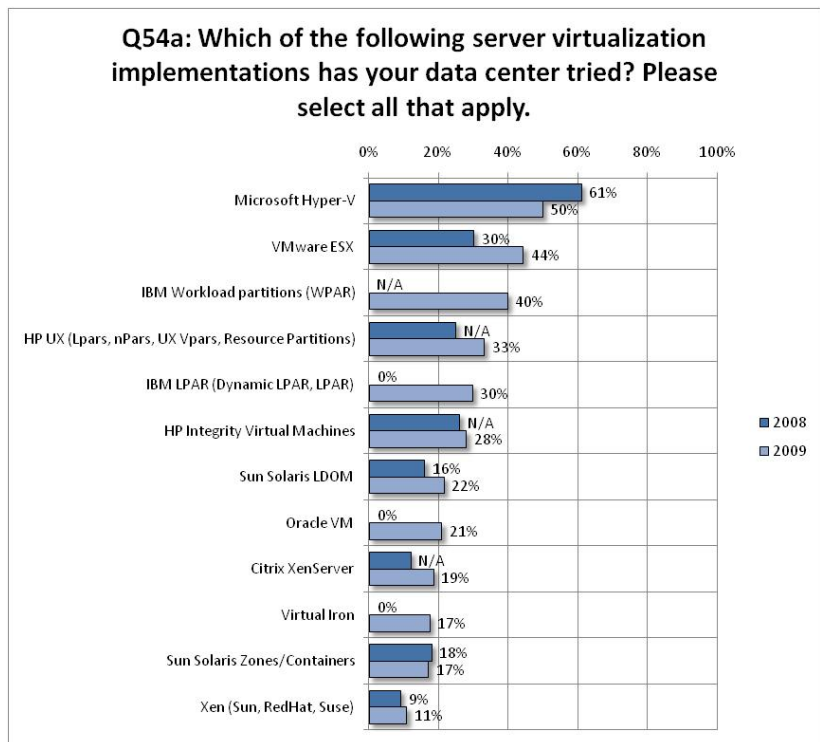
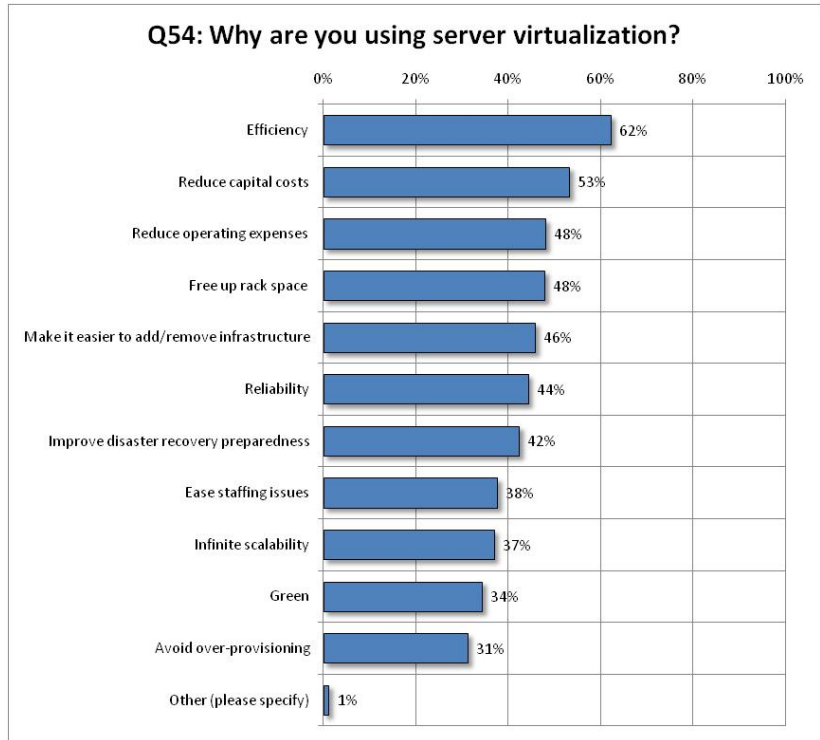








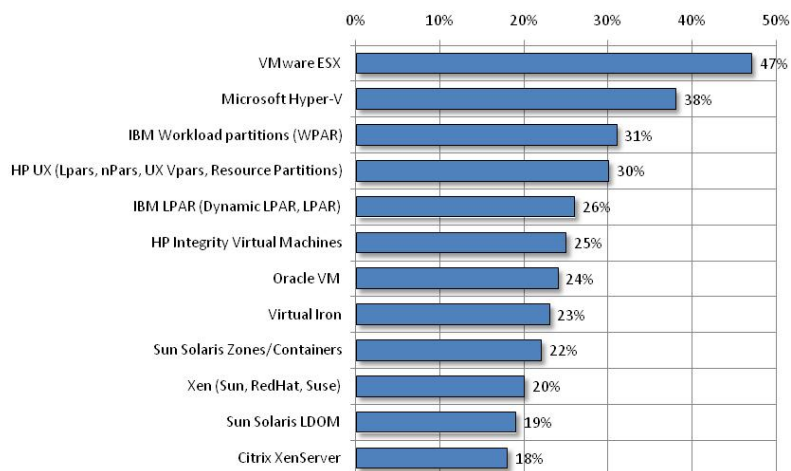




**Q55: For each of the server virtualization types that your data center has tried, what percent of implementations are in test/development environments?**

(Each type only asked of those who indicated that they have tried that type of server virtualization)

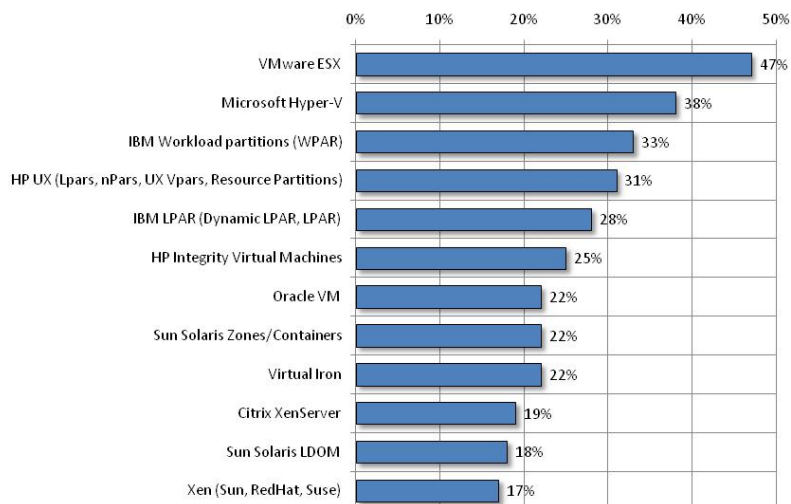
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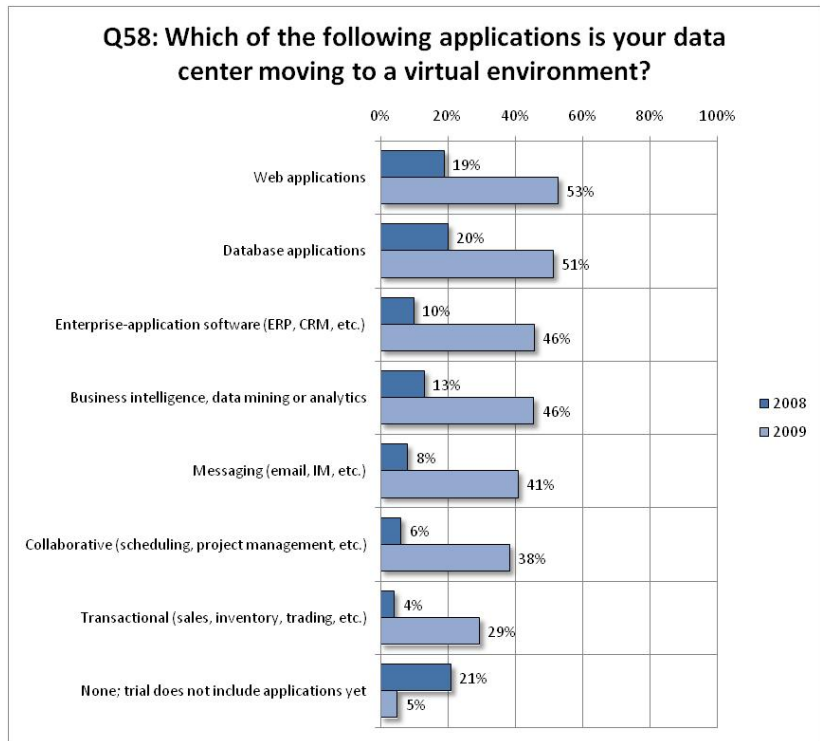
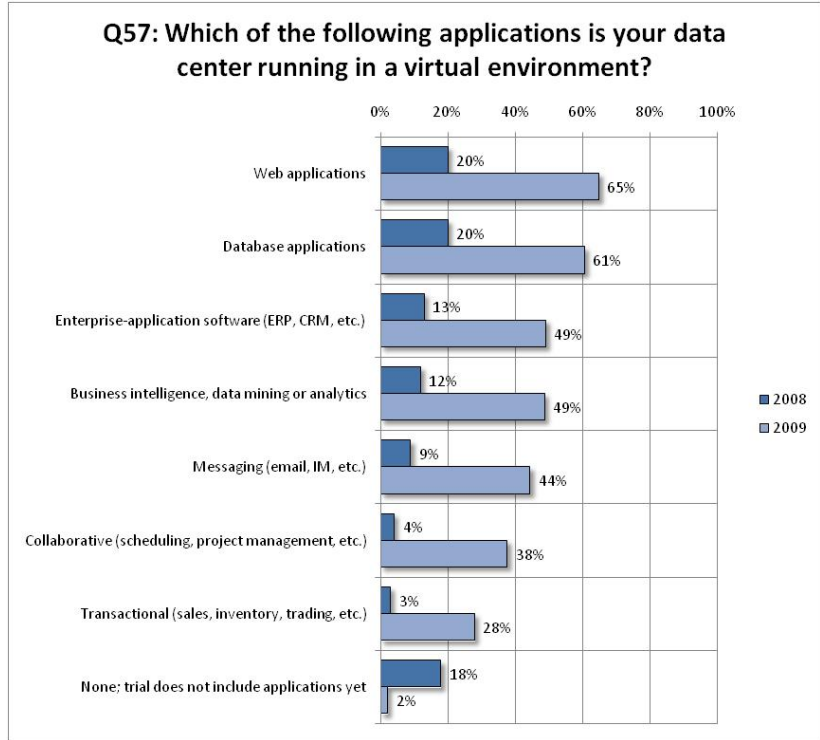


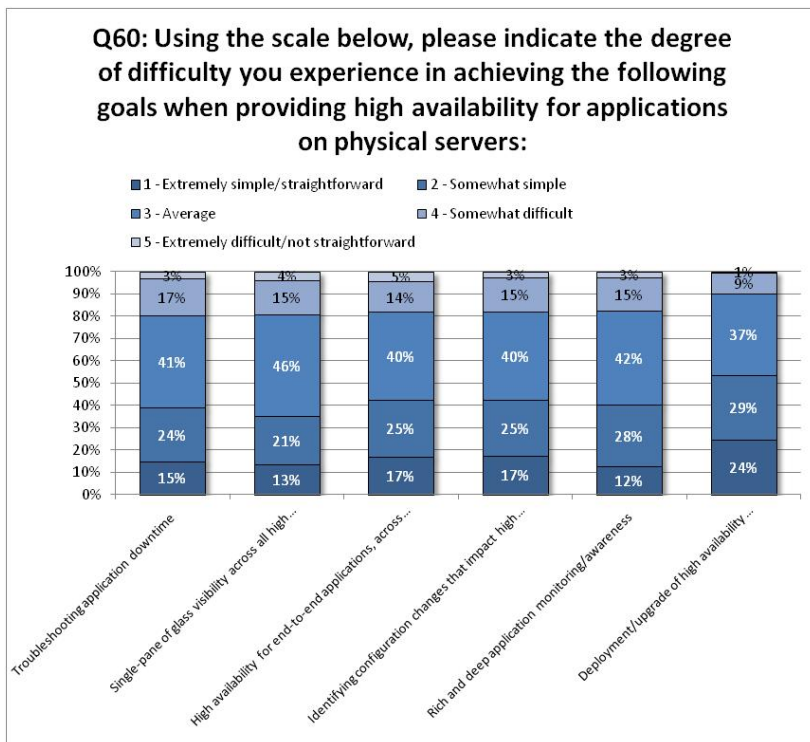
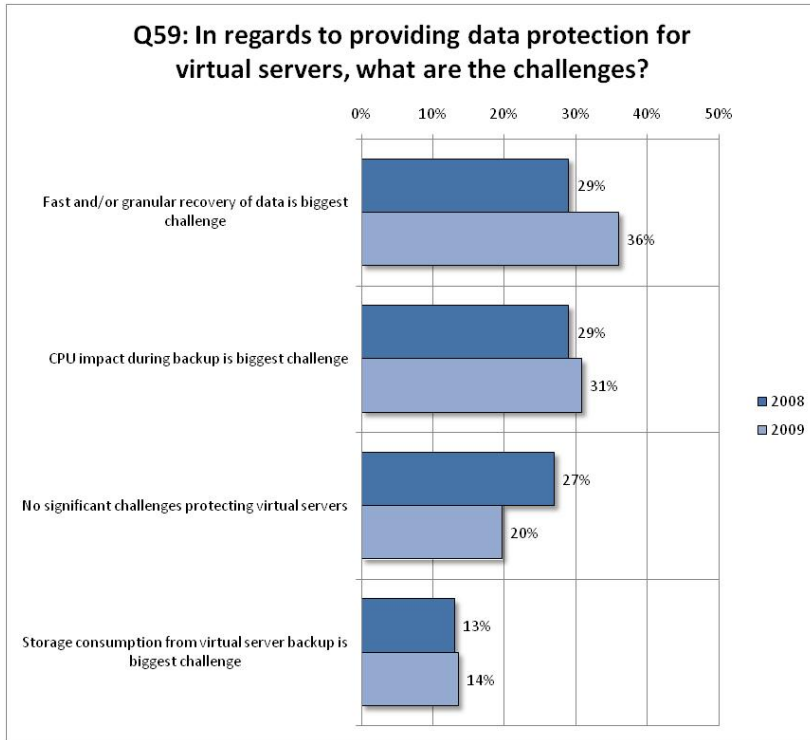
**Q56: For each of the server virtualization types that your data center has tried, what percent of implementations are in production?**

(Each type only asked of those who indicated that they have tried that type of server virtualization)

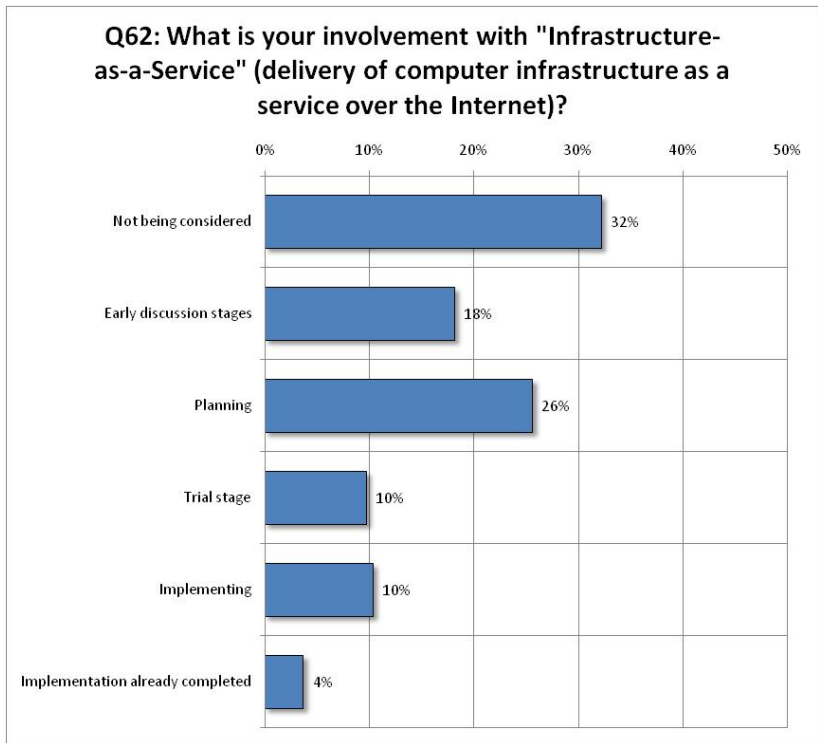
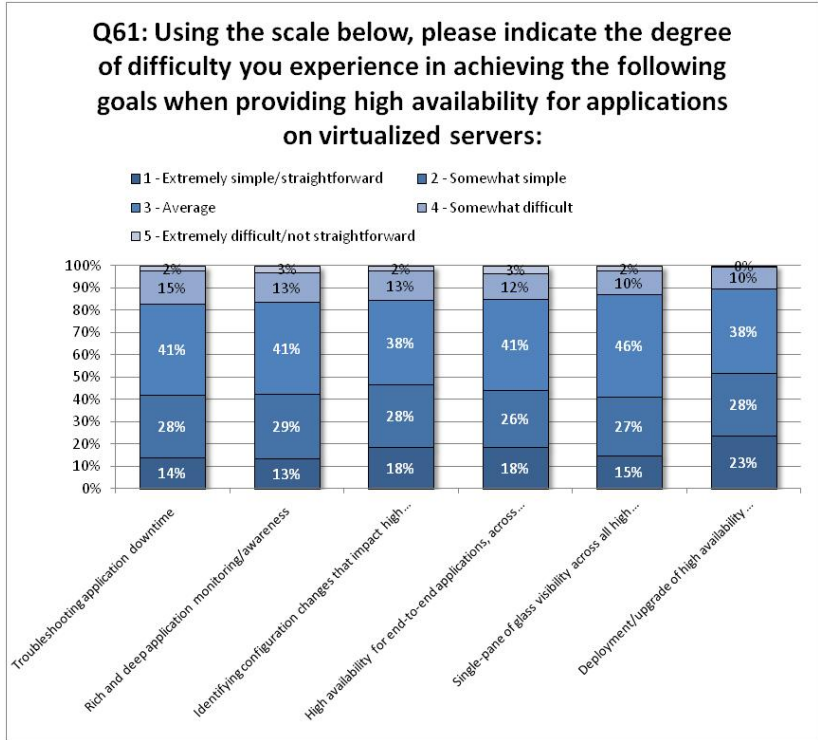
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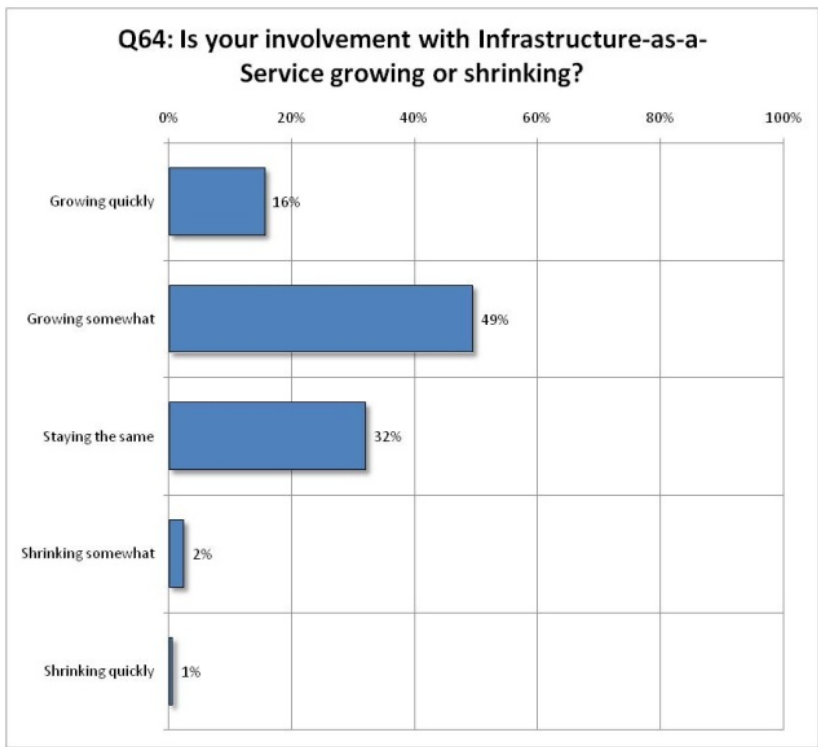
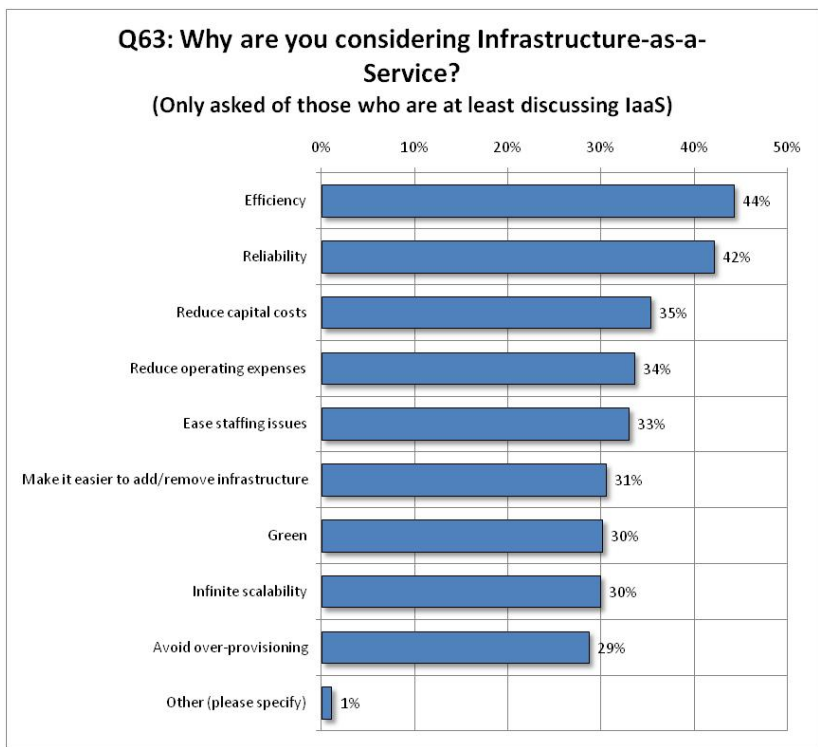


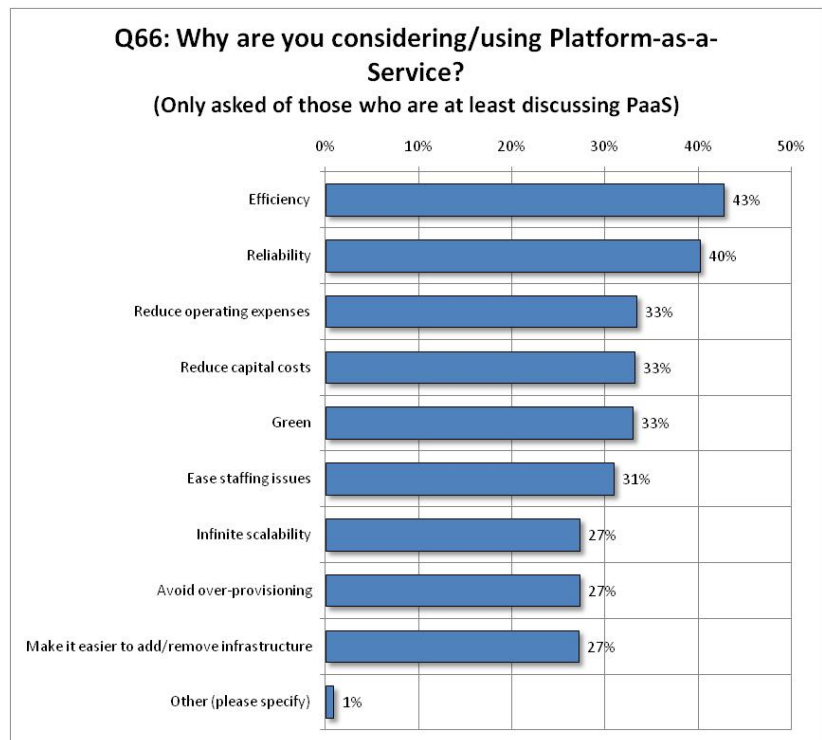
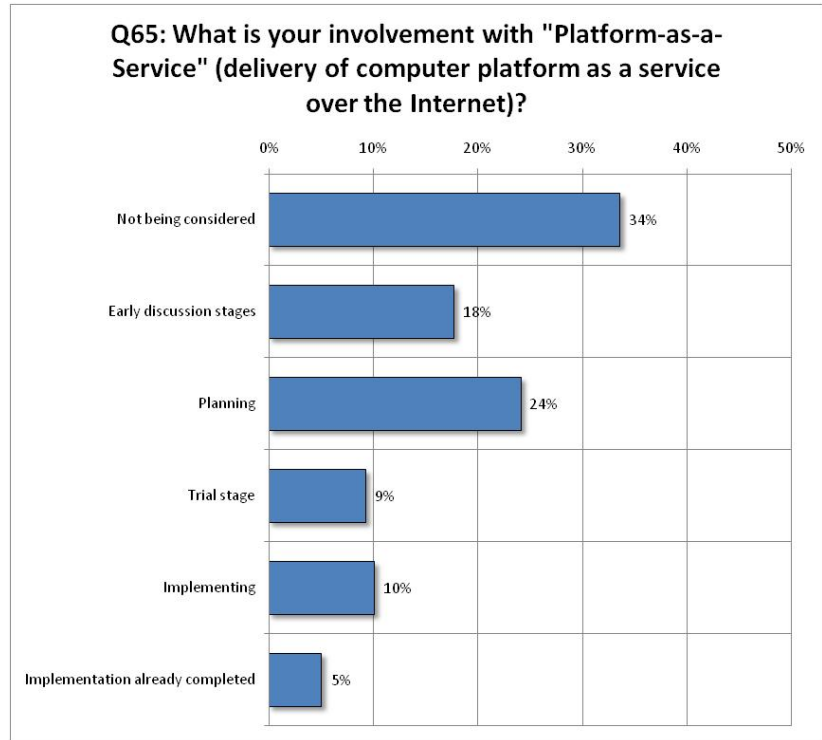


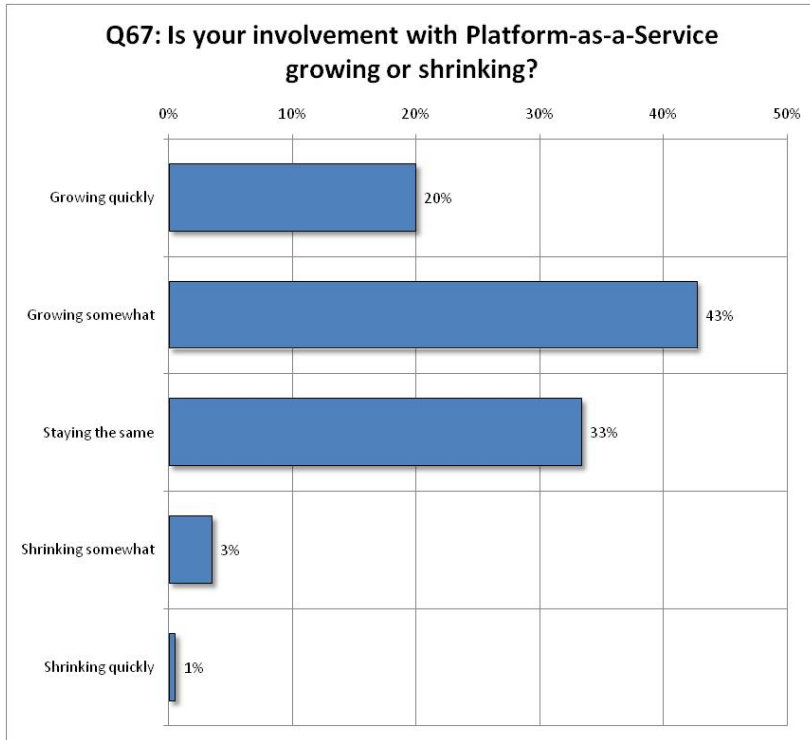




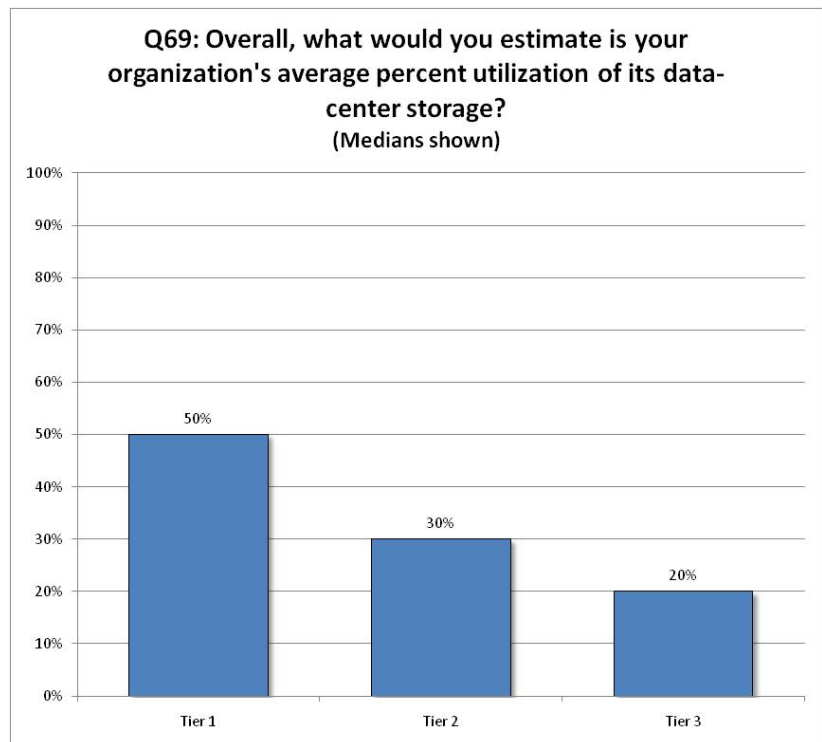
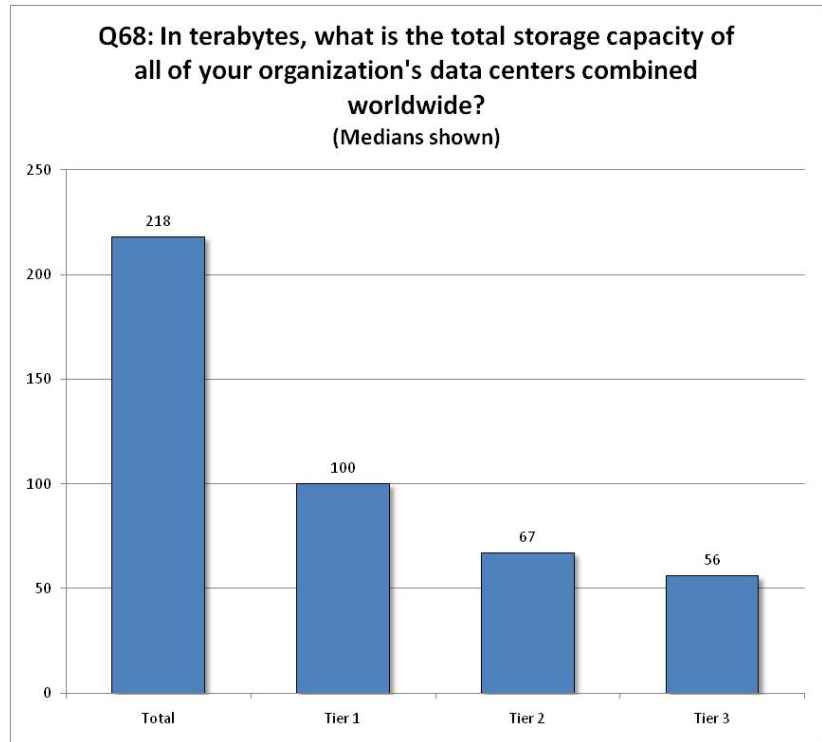


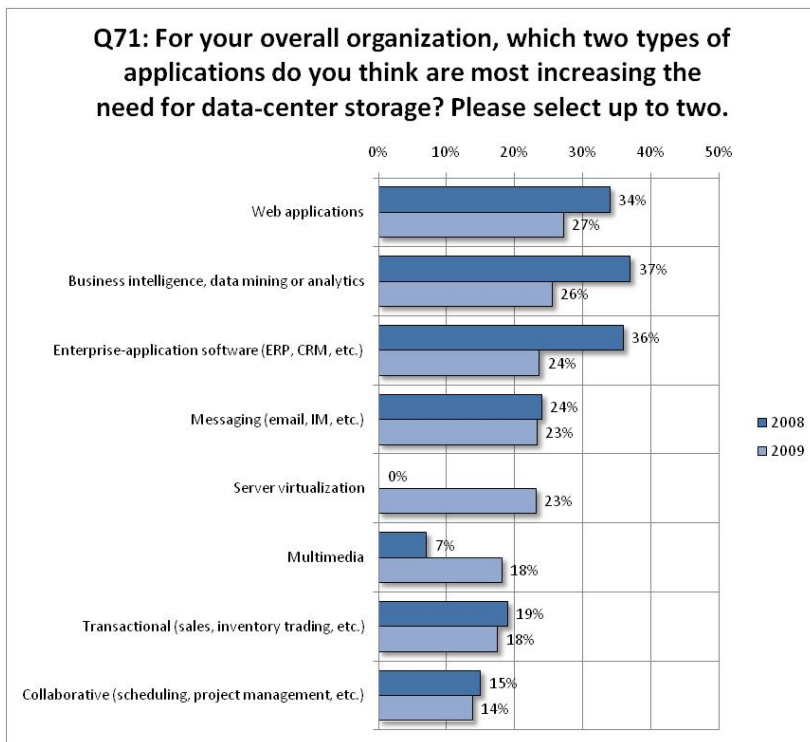
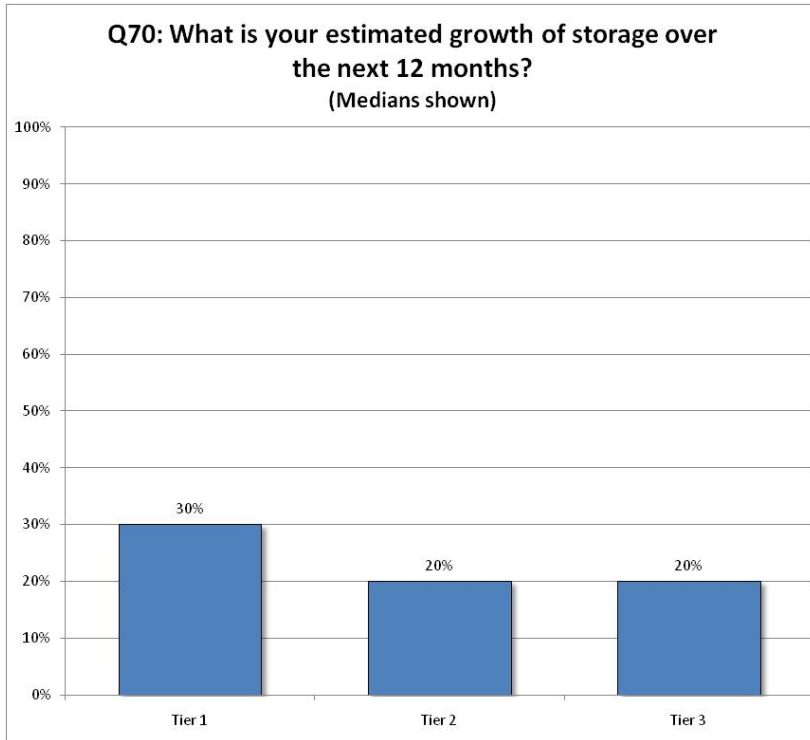


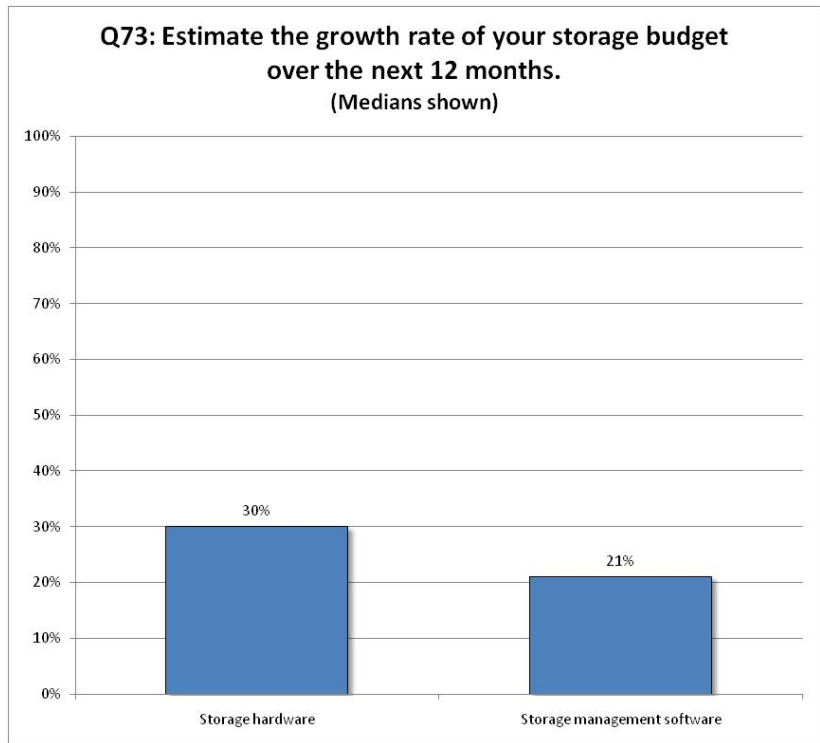
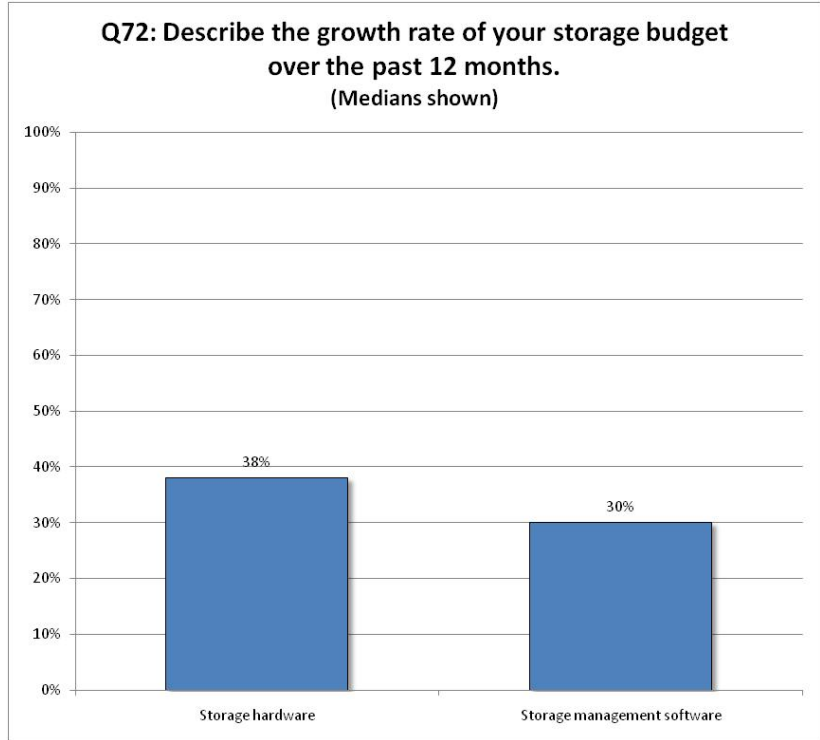


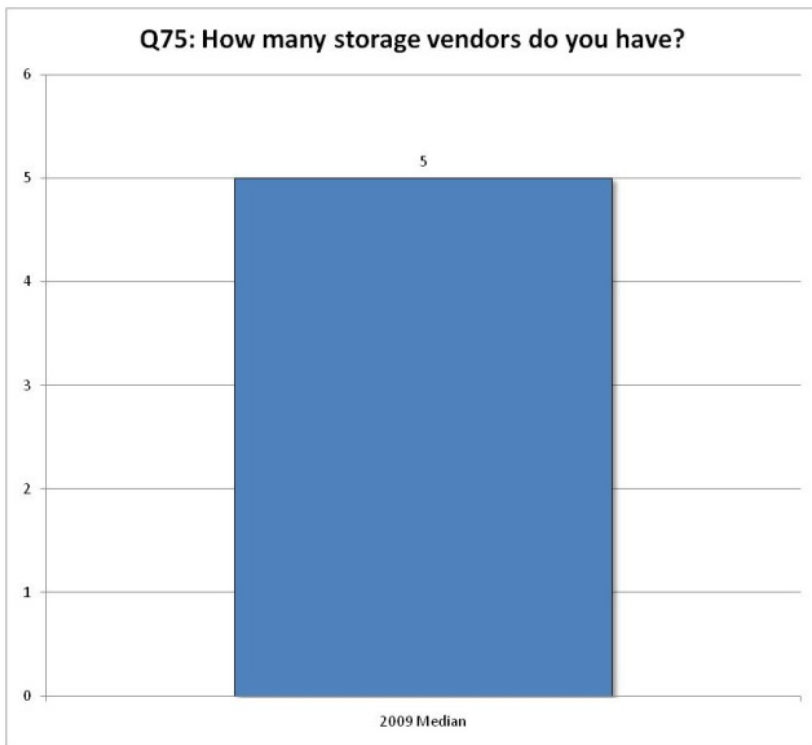
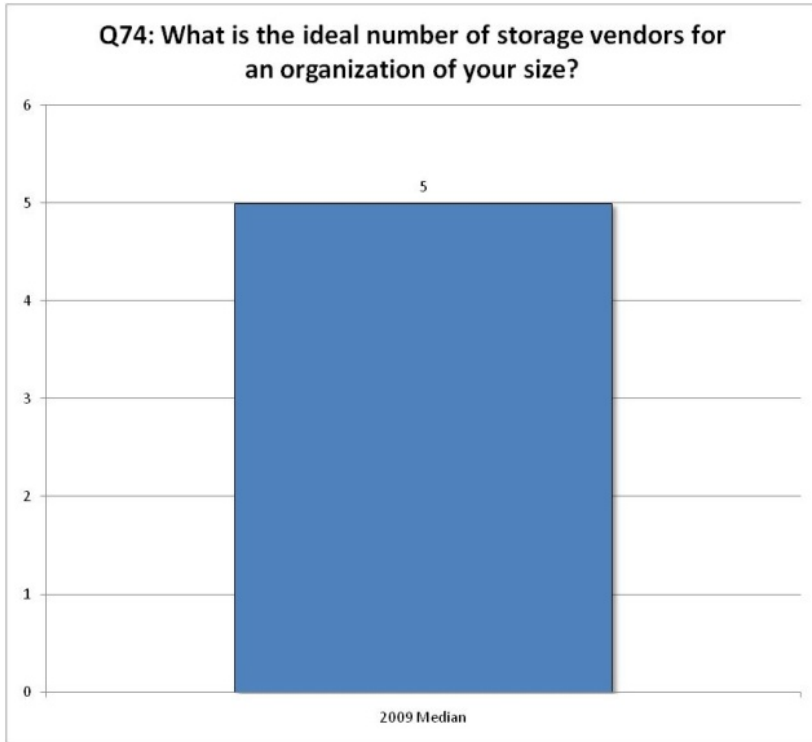


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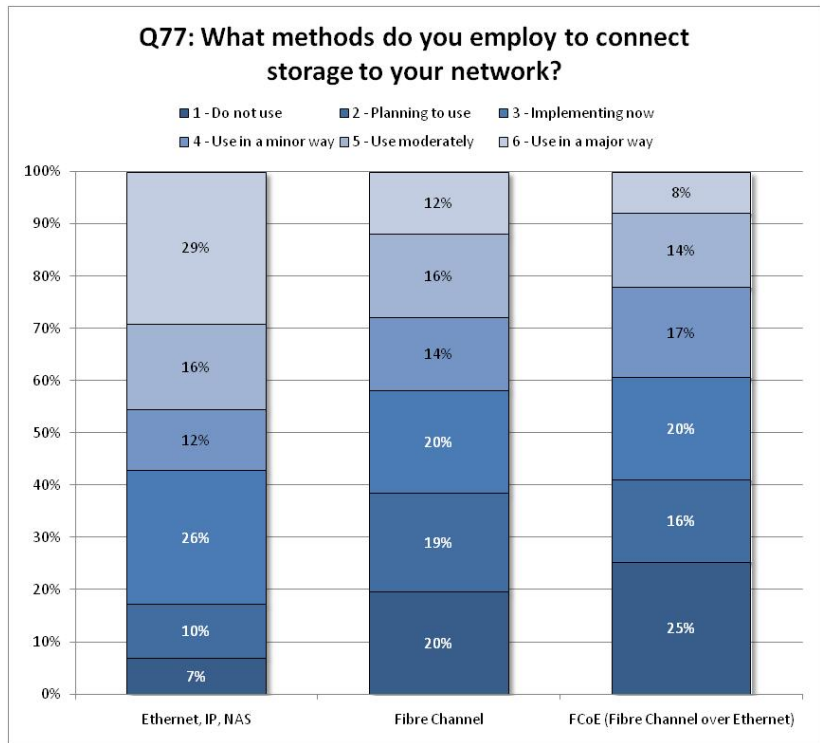
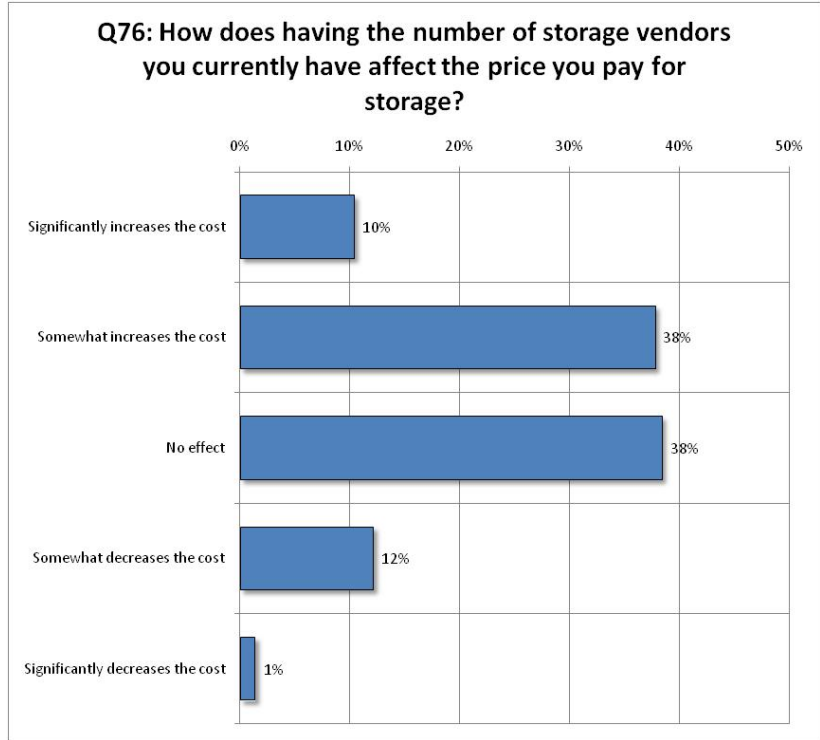


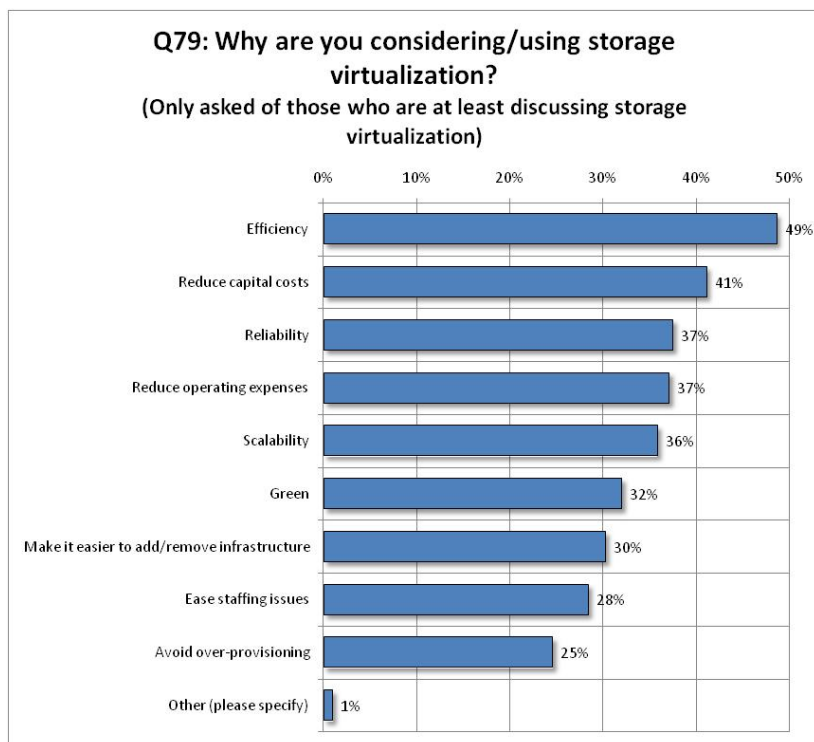
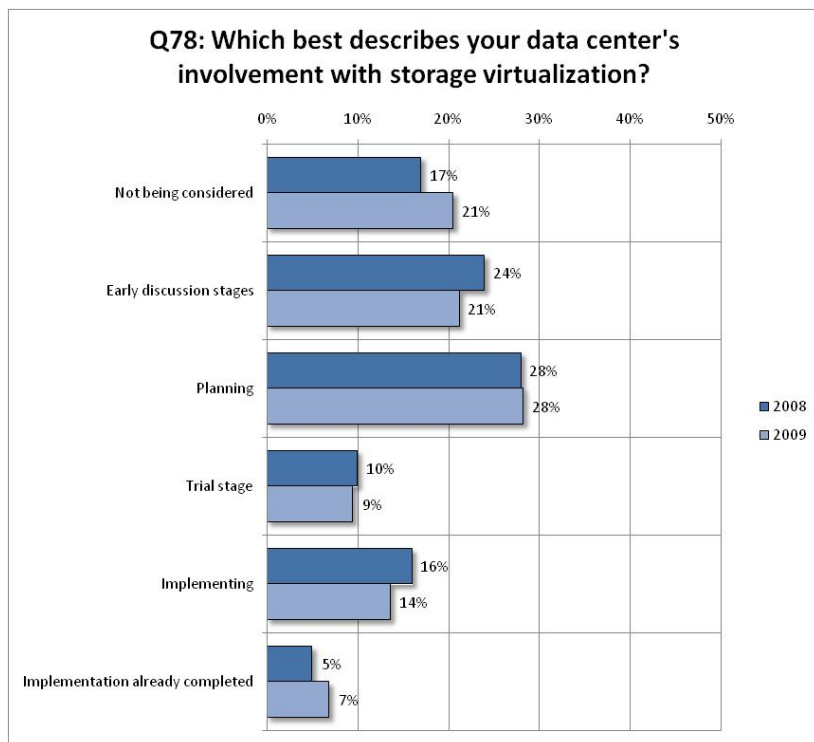


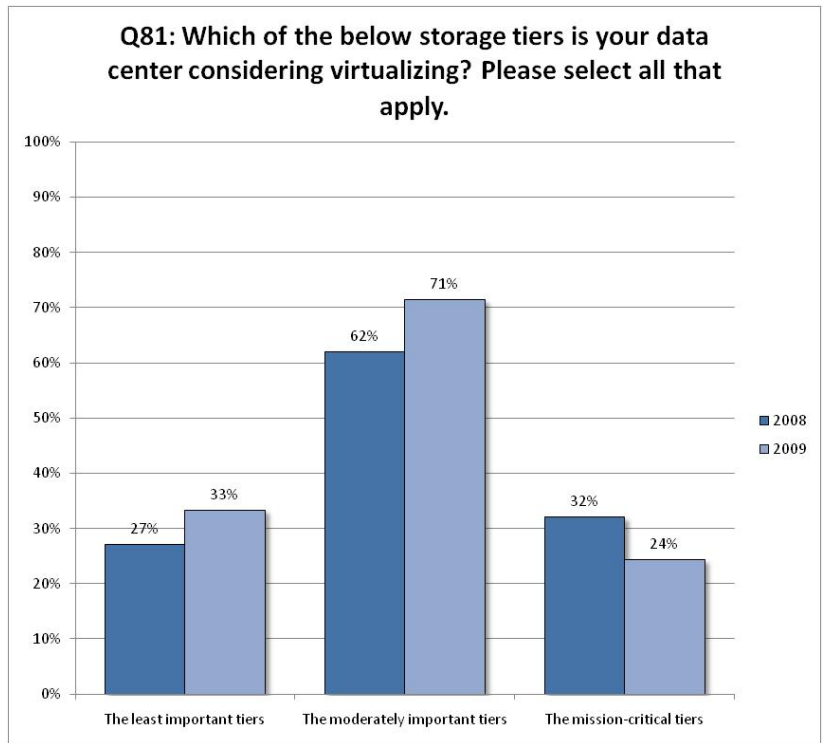
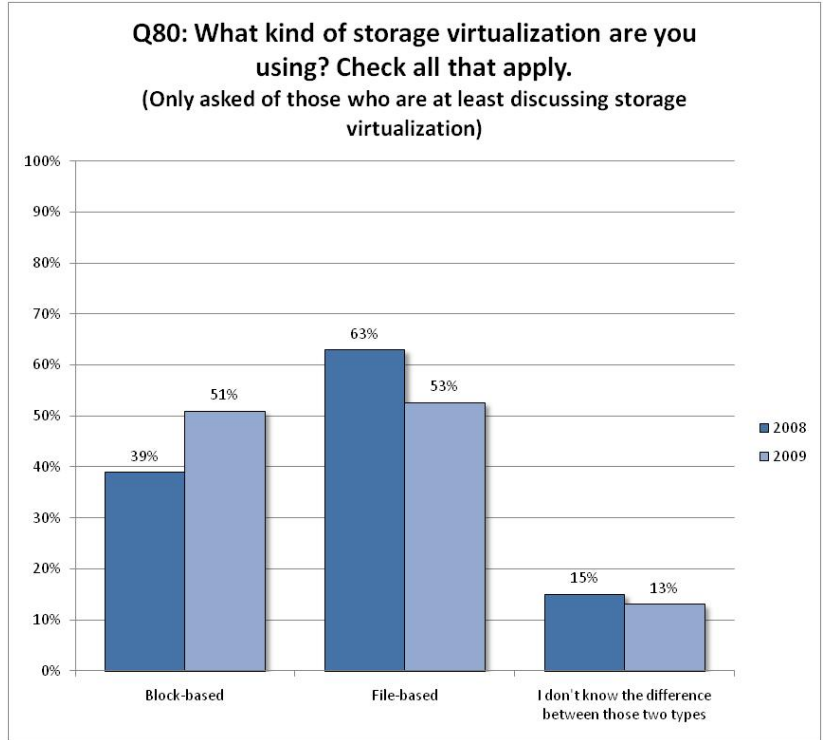


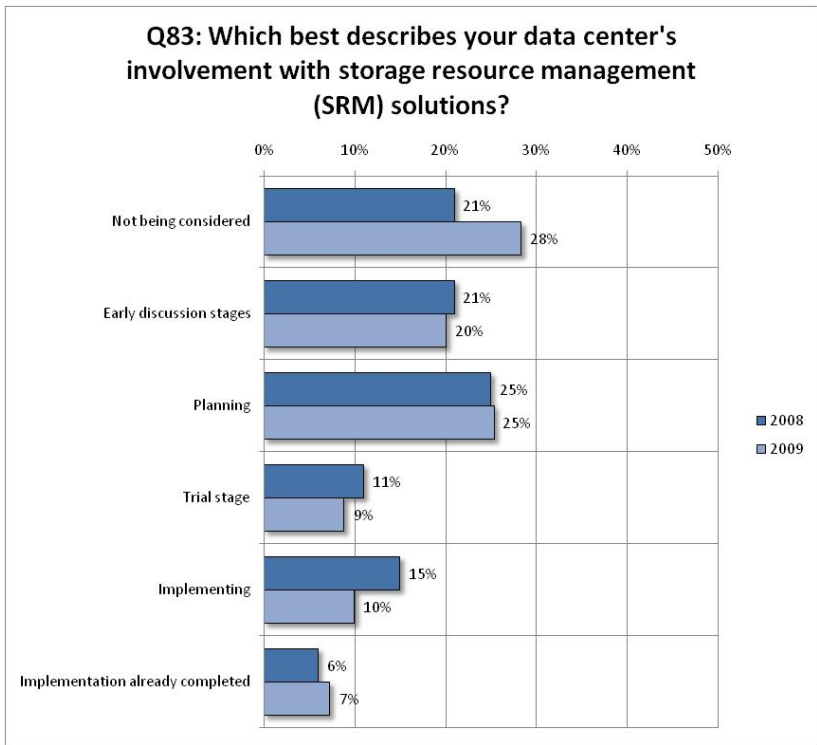
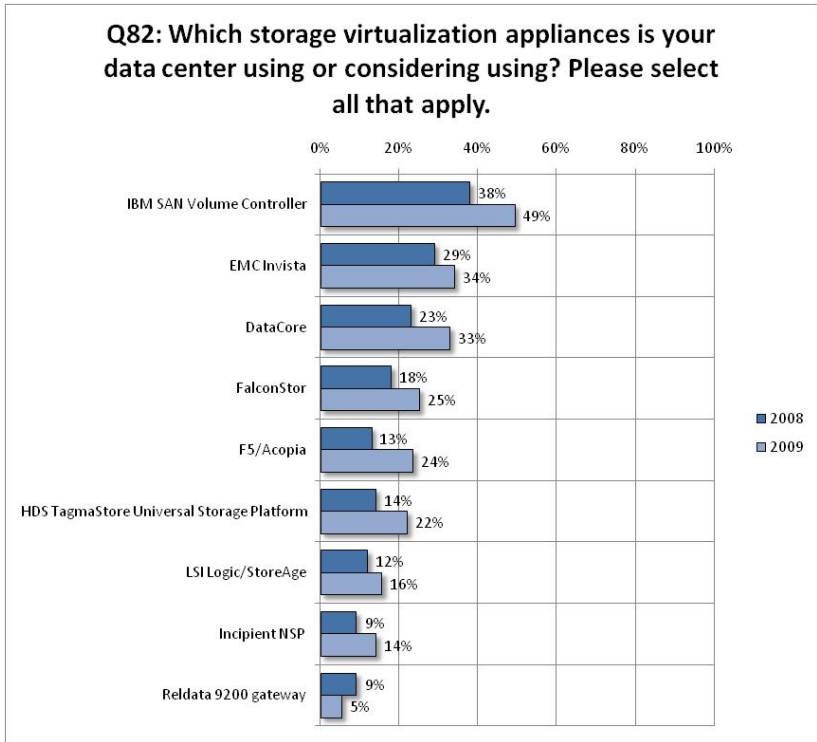


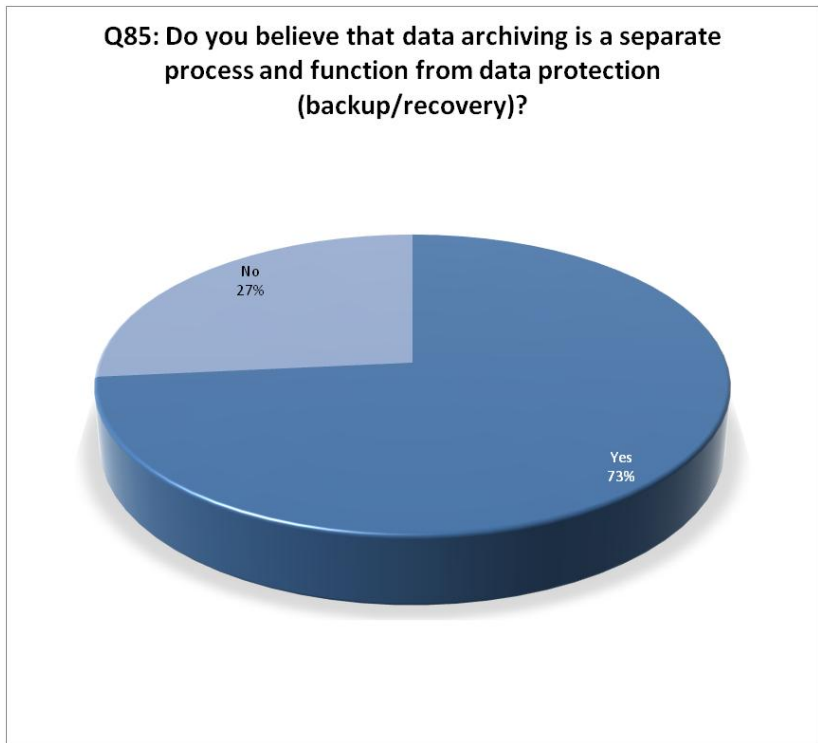
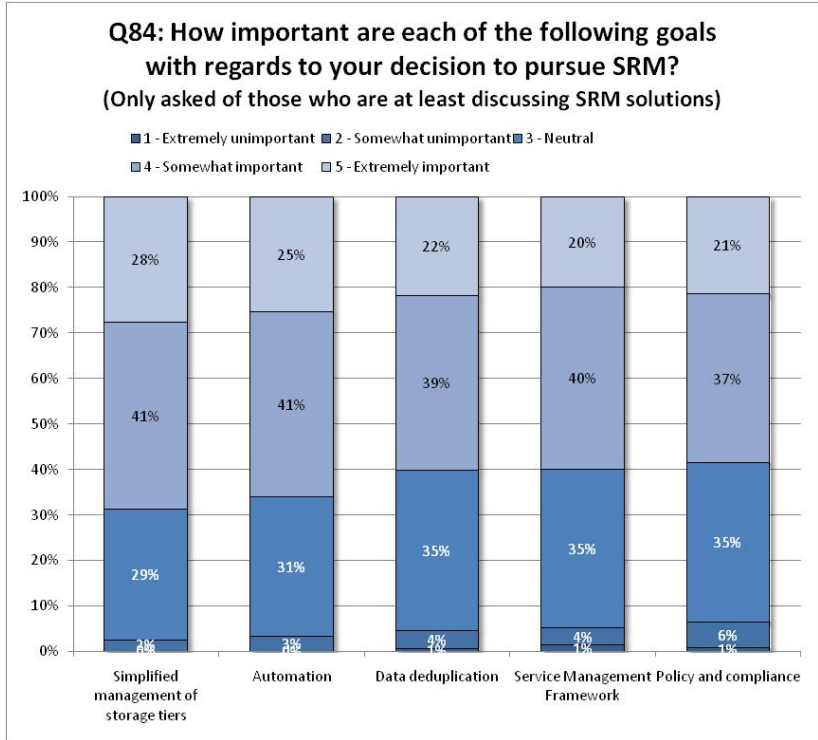


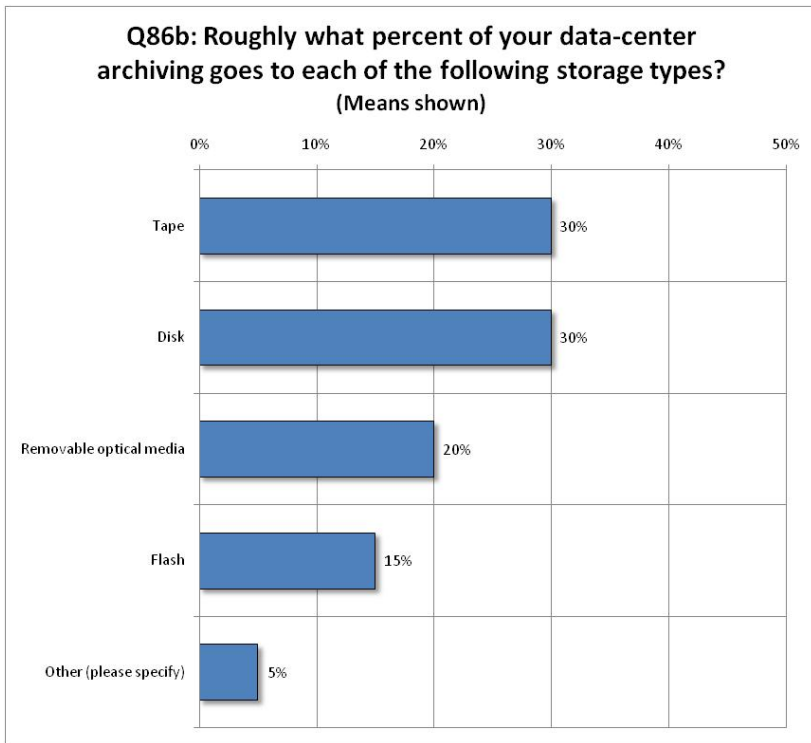
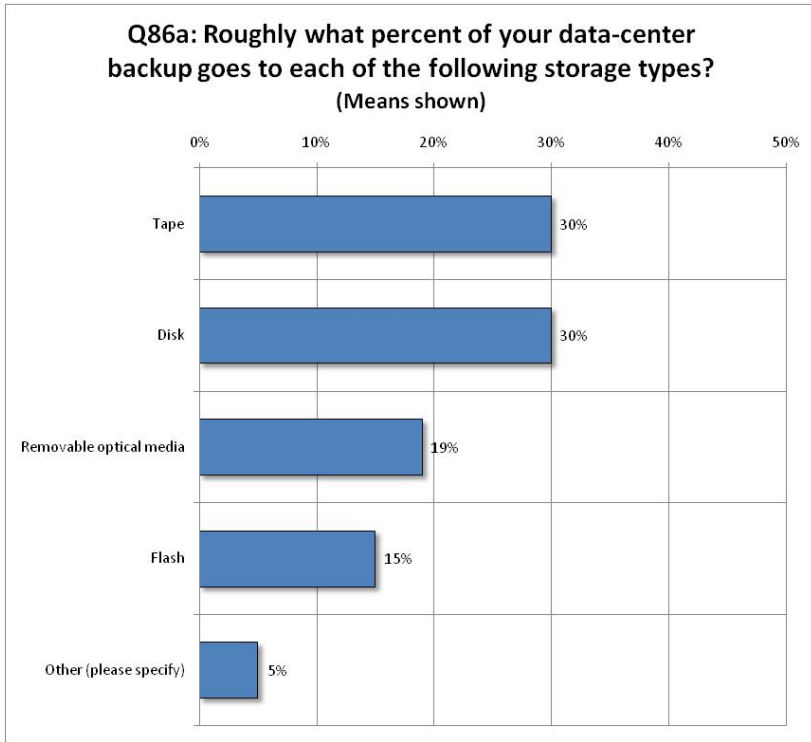


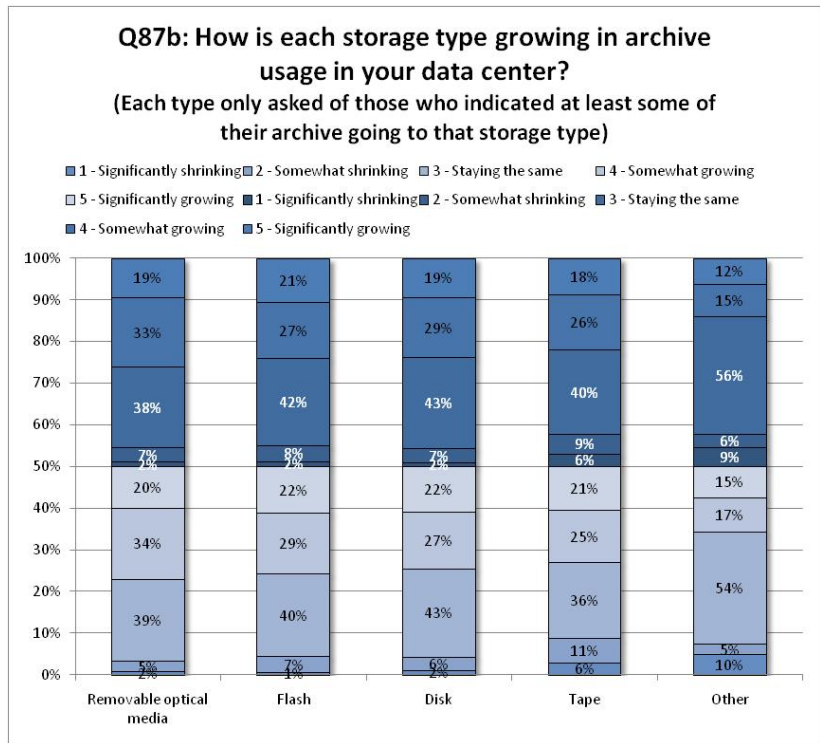
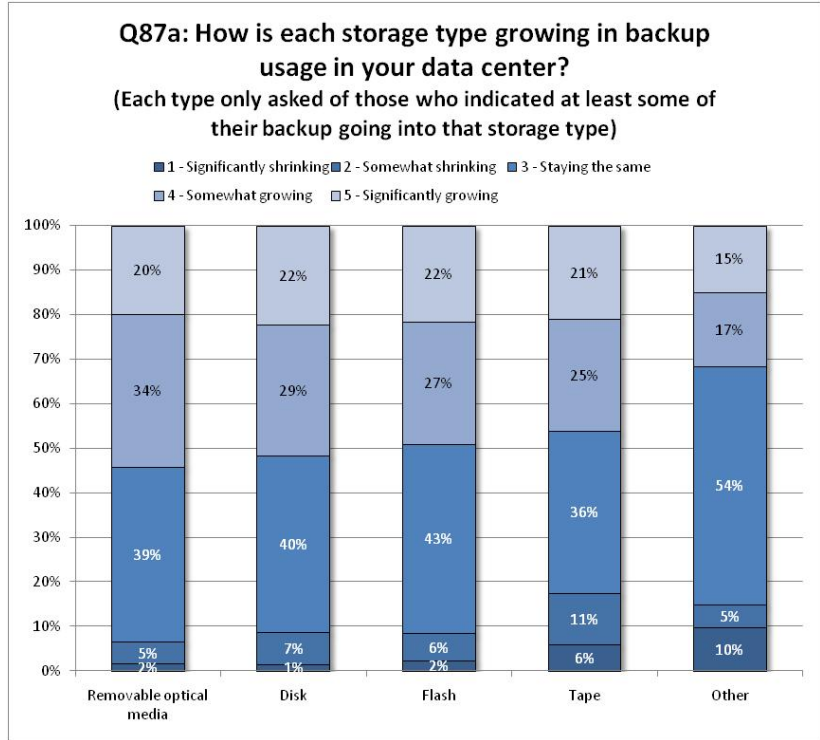


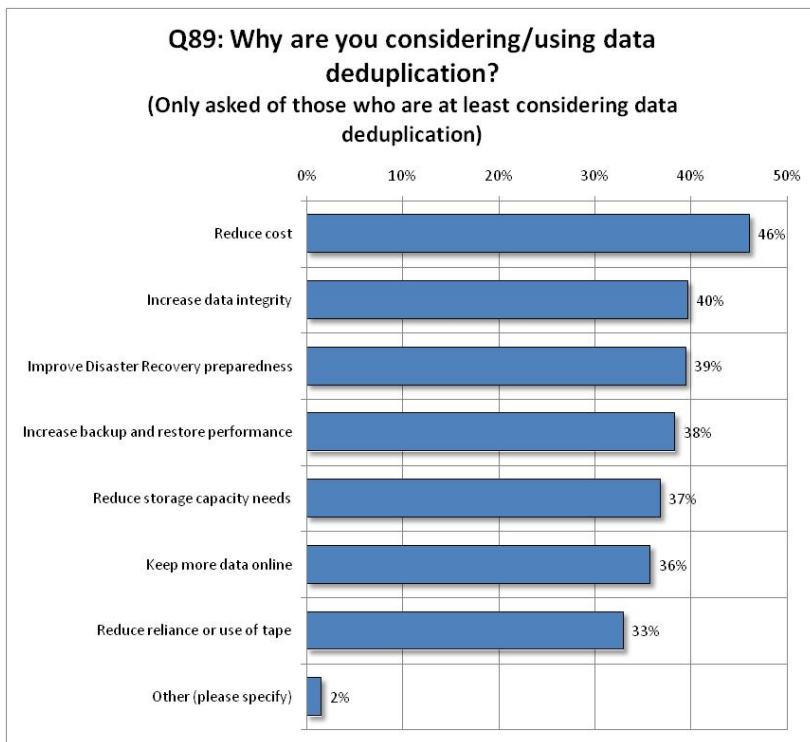
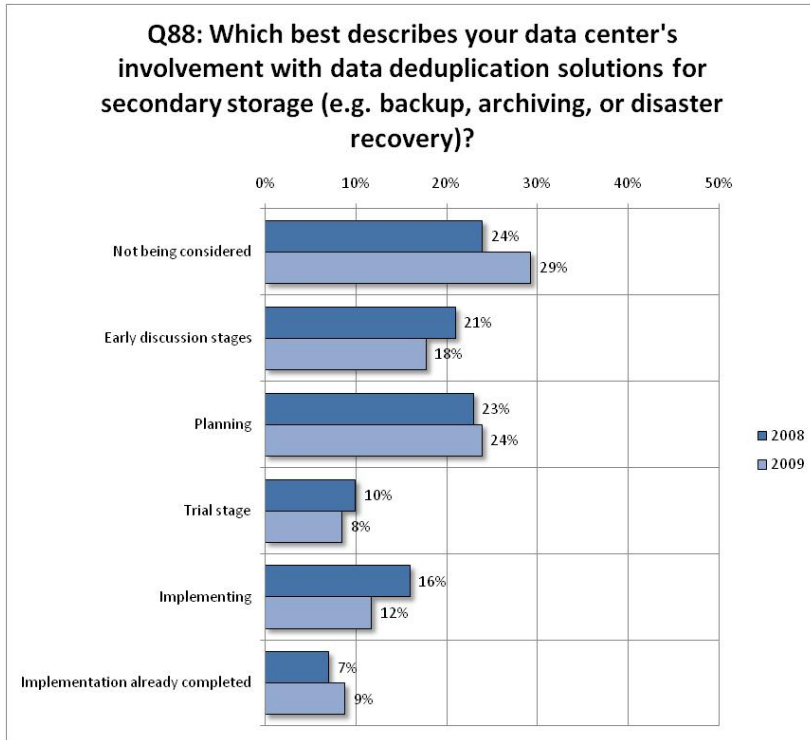




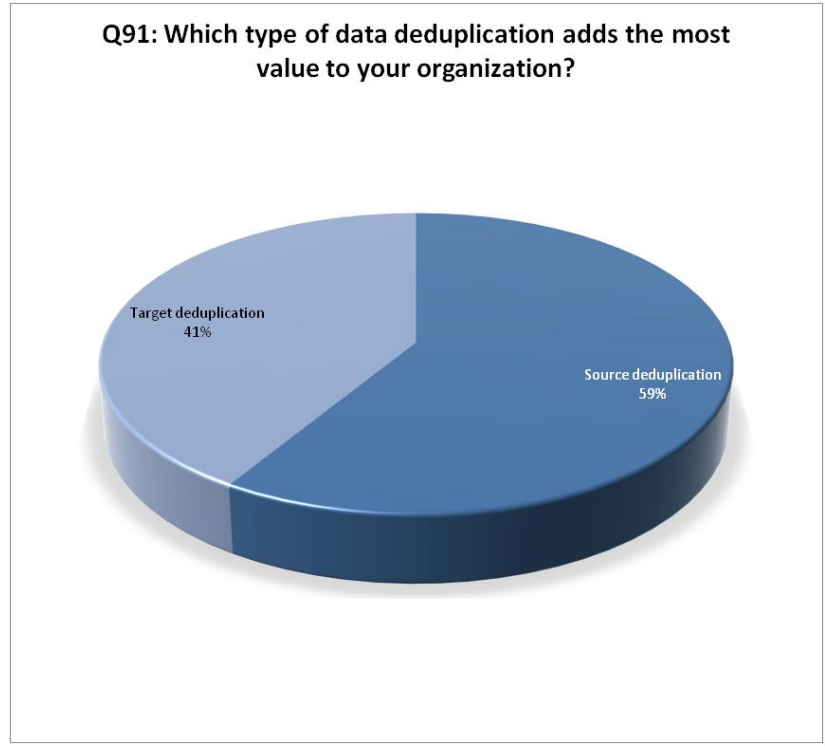
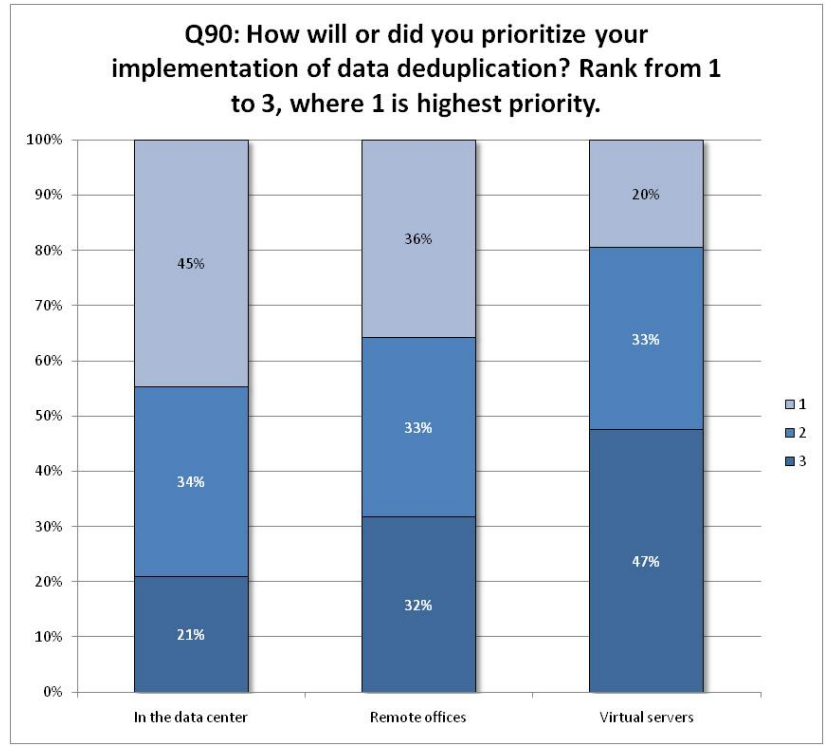




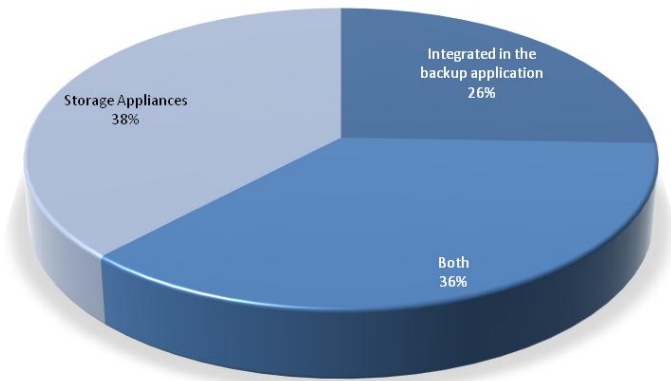




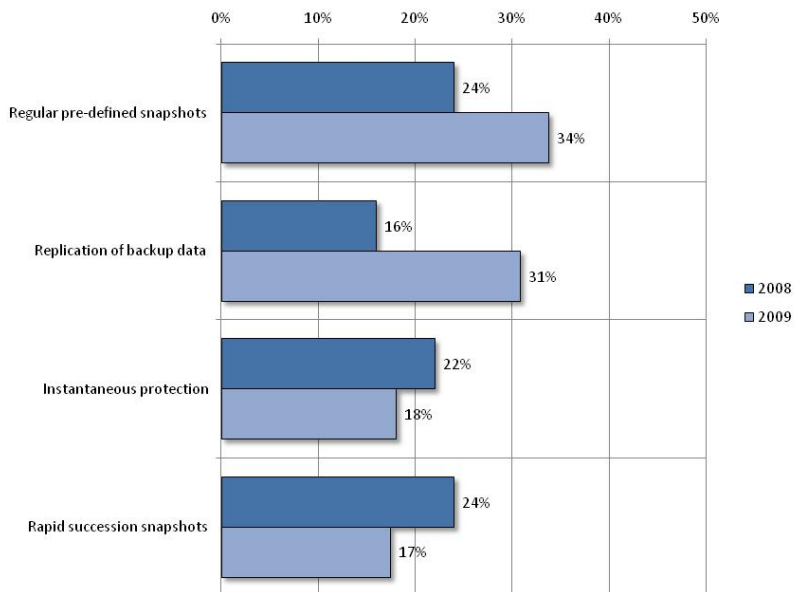


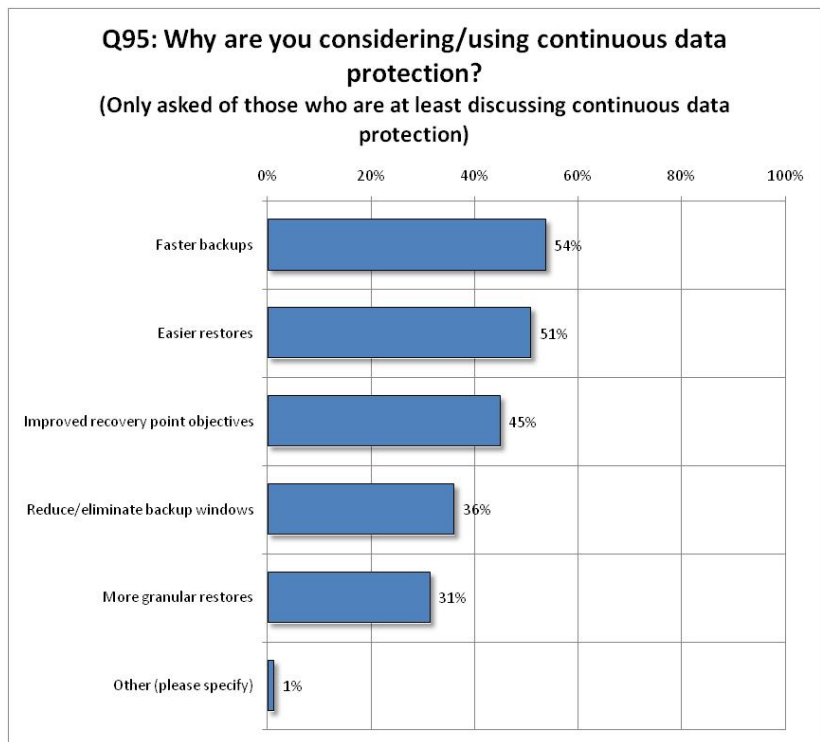
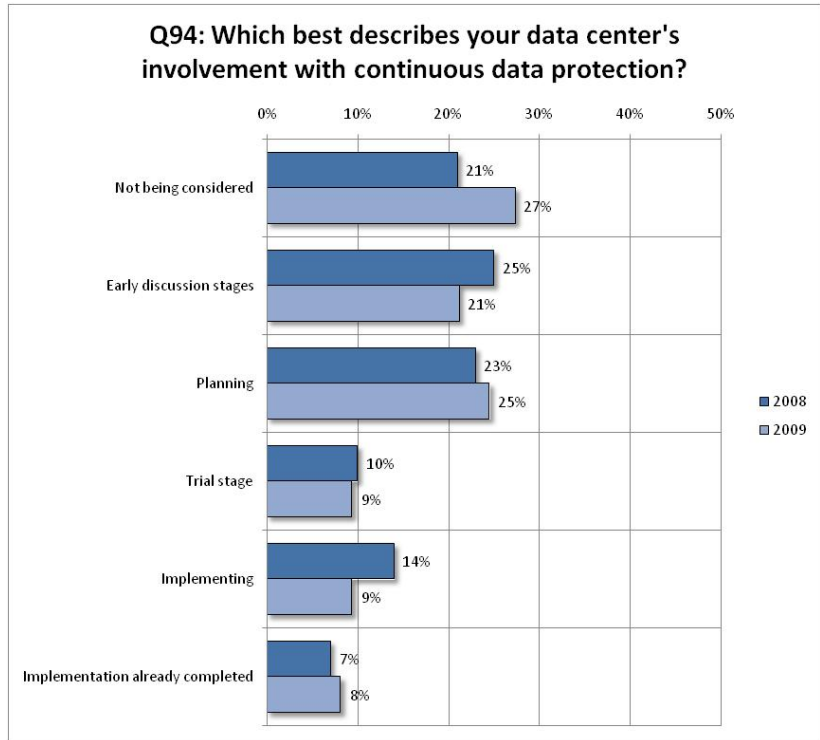


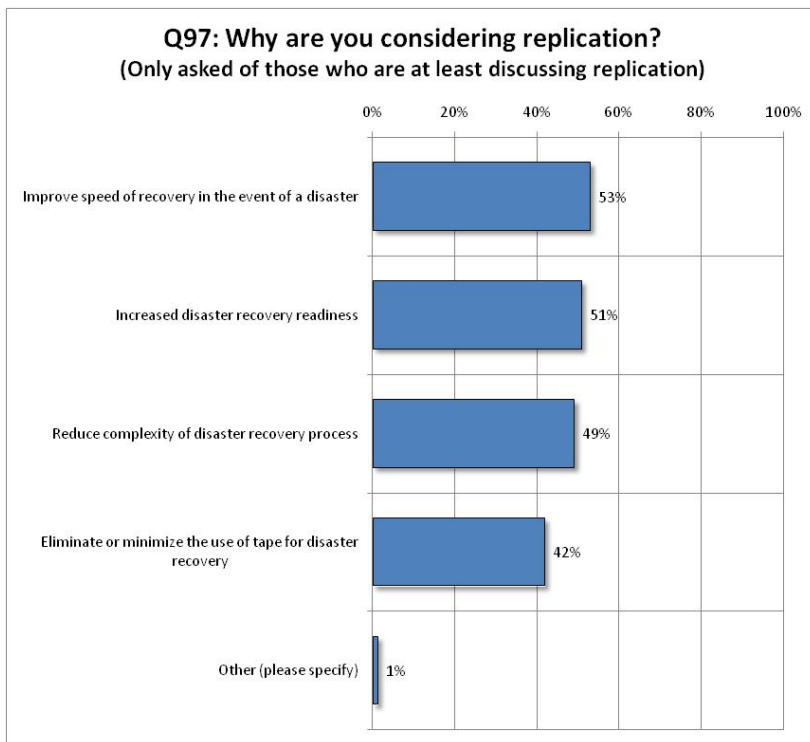
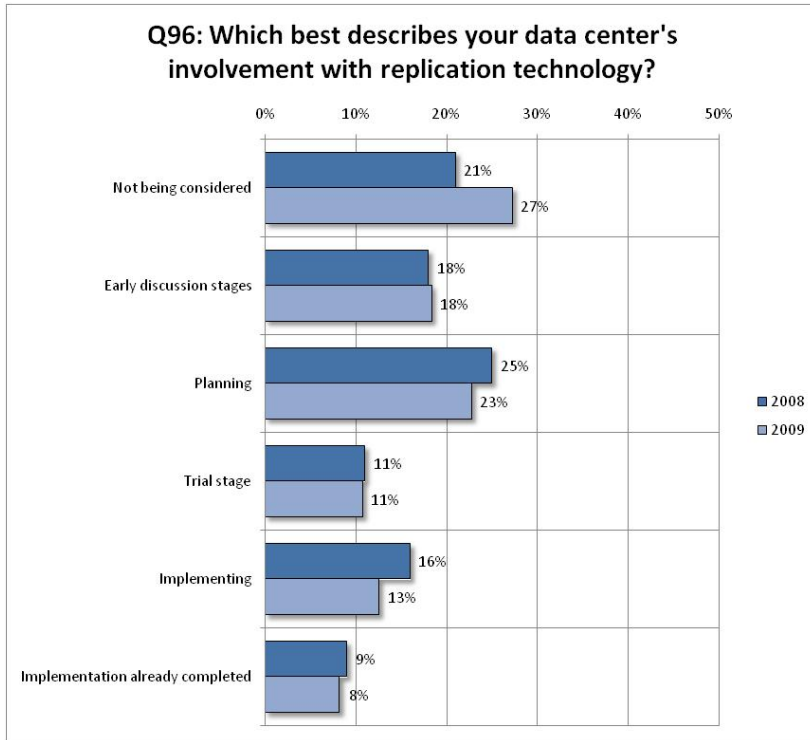
**Q92: How do you believe data deduplication should be deployed across your organization?**



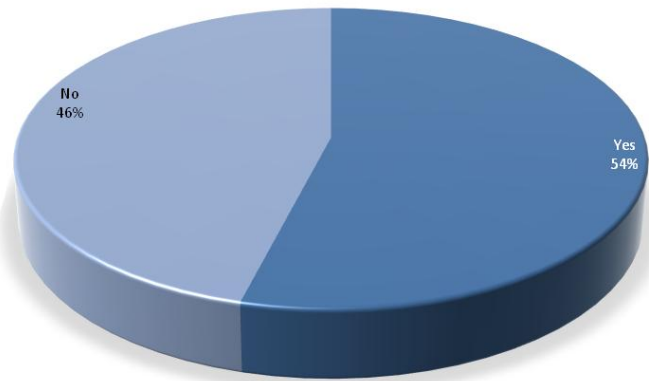
**Q93: In your opinion, which of the following phrases best describes what continuous data protection (CDP) does?**



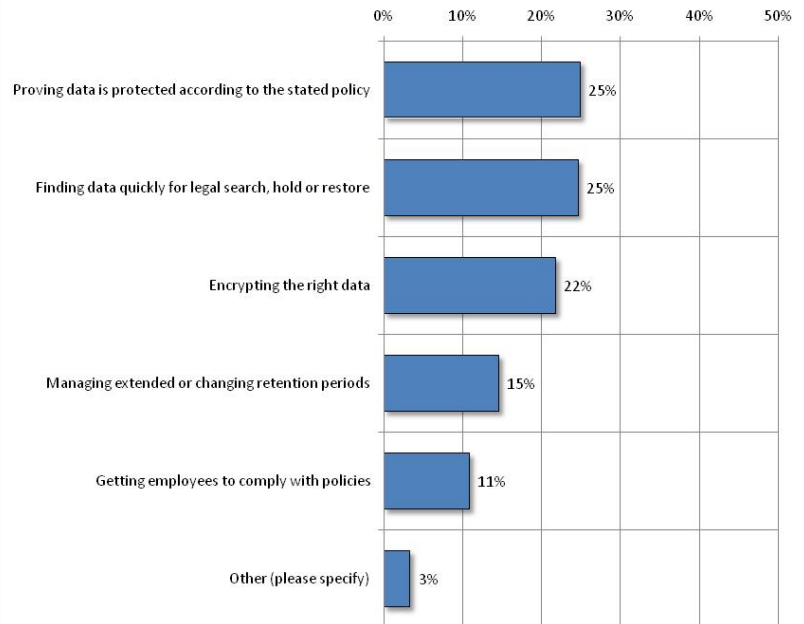


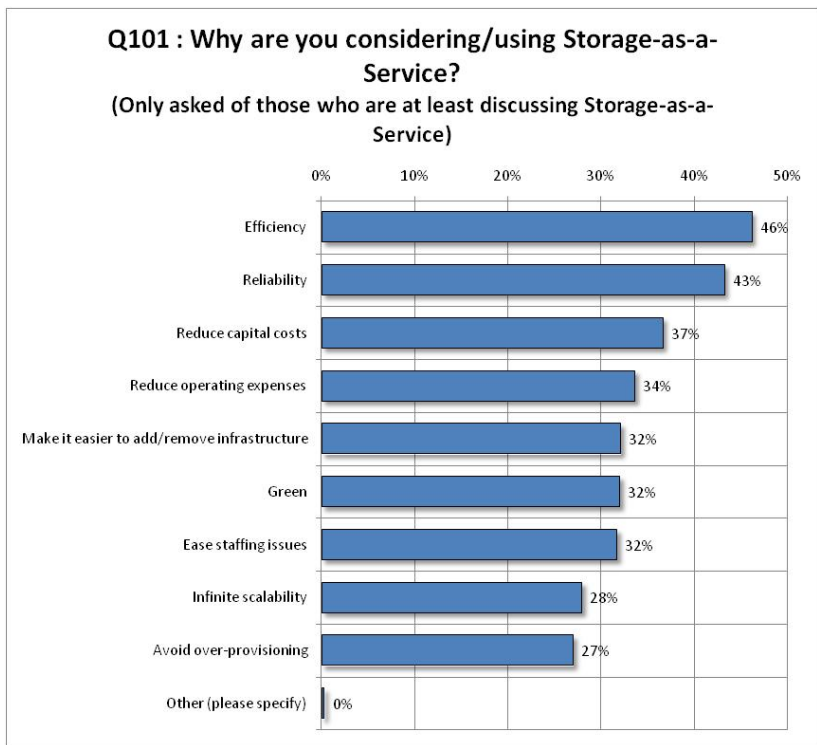
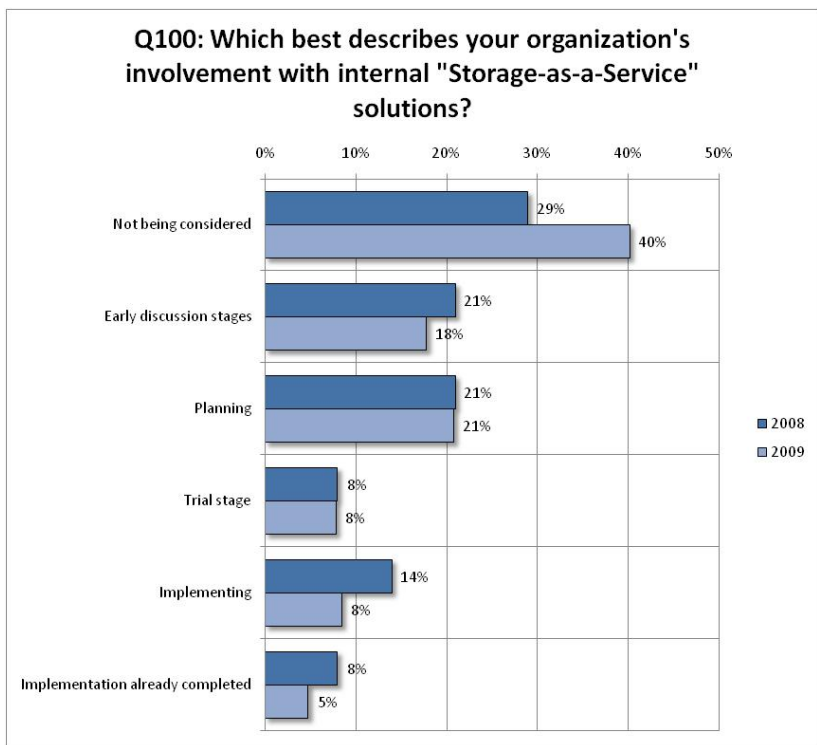


**Q98: Is your data center required by legal regulations to actively report on backups?**

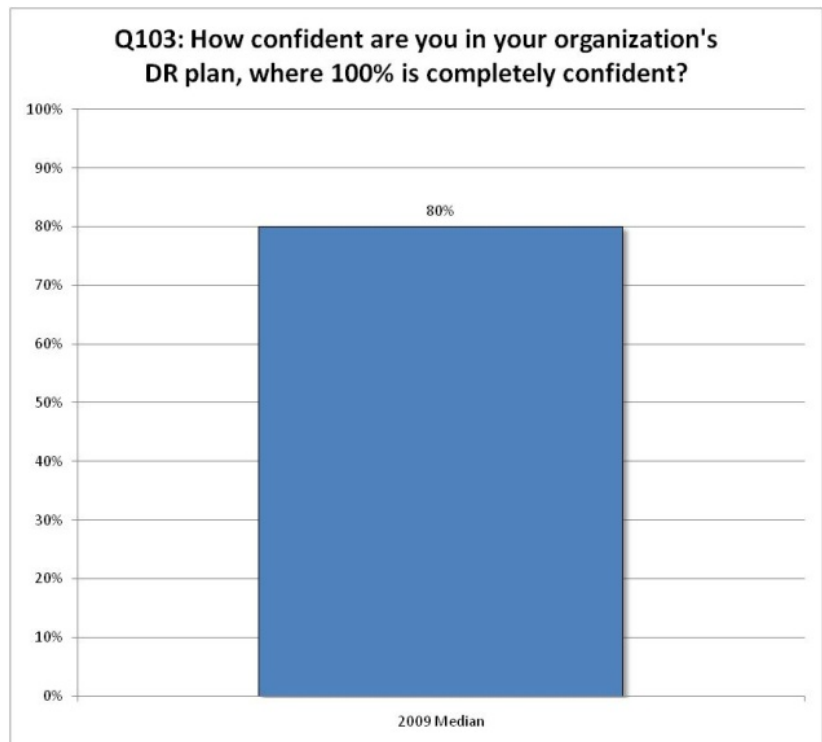
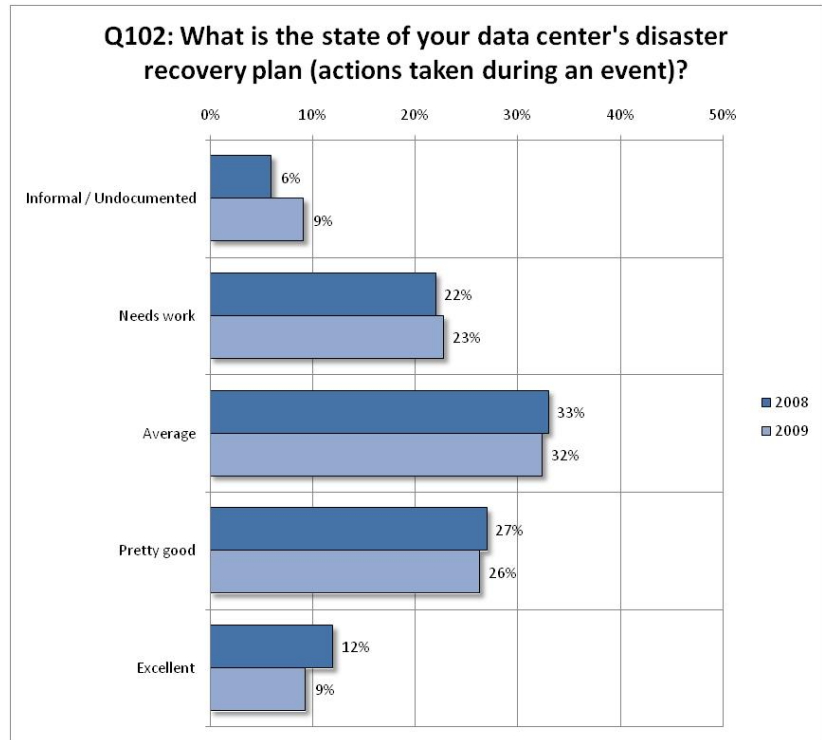


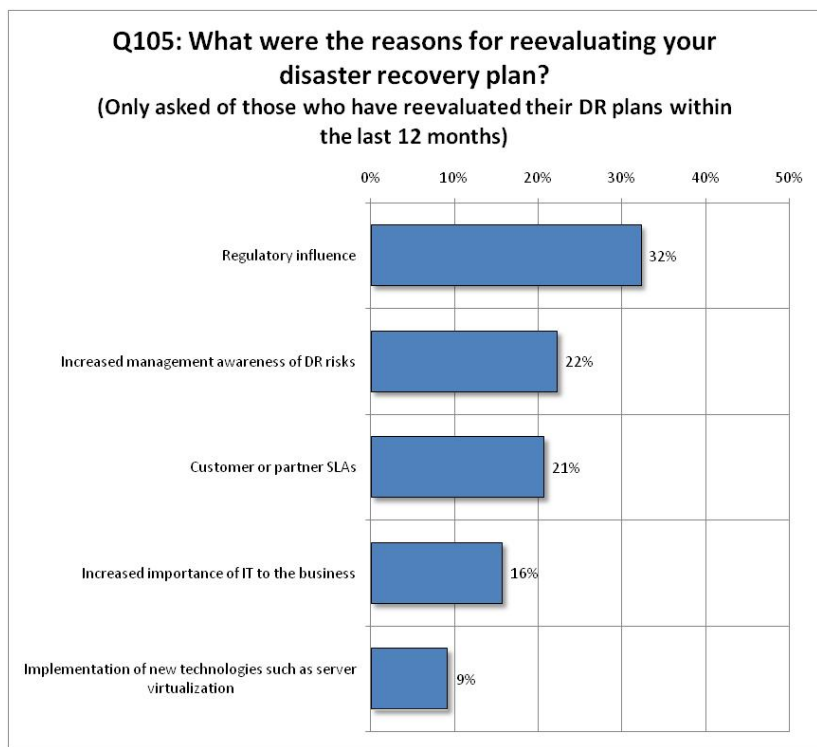
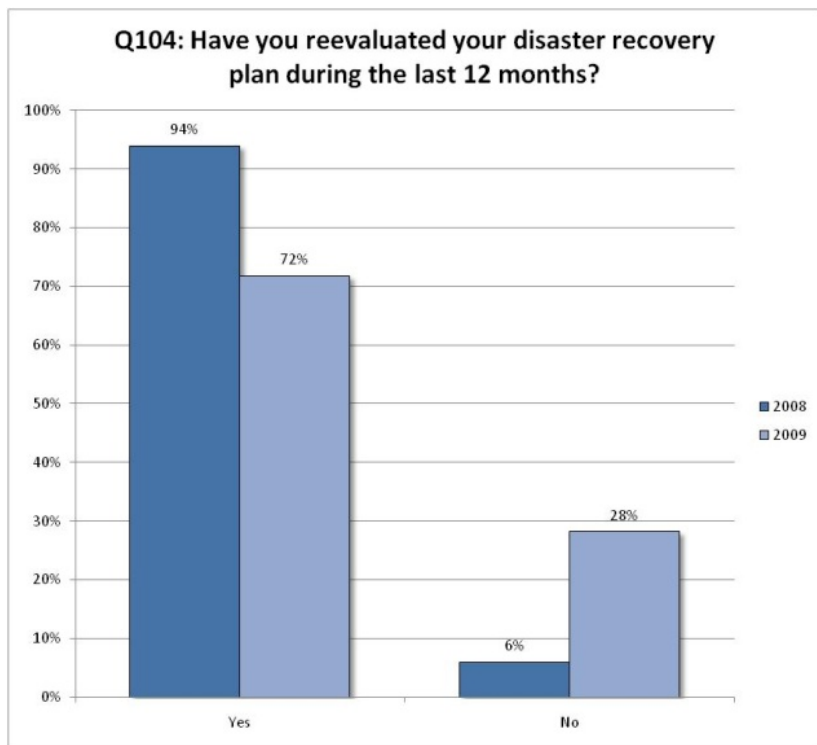
**Q99: What is your biggest challenge related to compliance/legal requirements?**





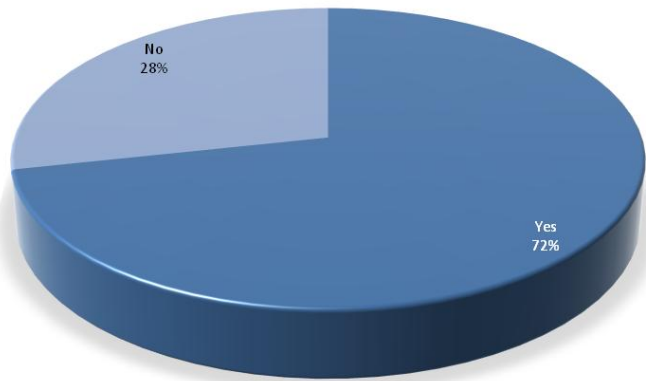
Disaster Recovery:



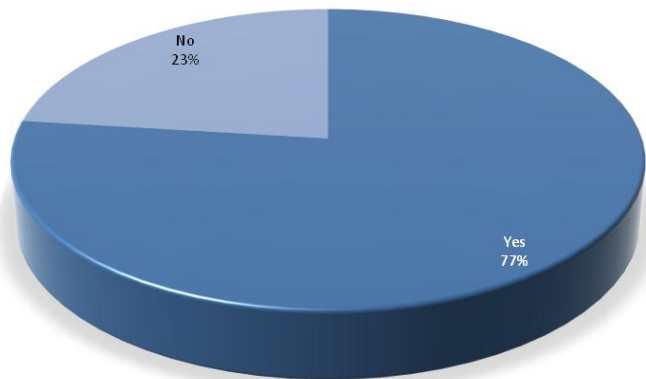




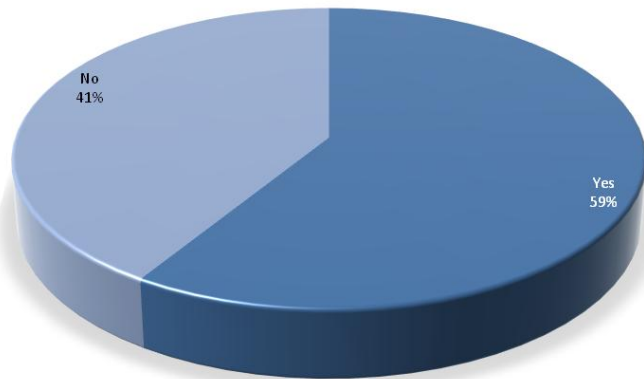
**Q106: Are remote offices covered by your data center's disaster recovery plan?**



**Q107: Are virtual servers covered by your data center's disaster recovery plan?**



**Q108: Are your cloud computing initiatives covered by your data center's disaster recovery plan?**



**Q109: Which of the following tactics are employed in your data center's disaster-recovery strategy (including plans for maintaining high availability)? Please select all that apply.**

