Data in the Clouds

An Information Difference Research Study

June 2014

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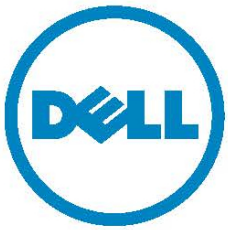

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EXECUTIVE SUMMARY

"Cloud computing" is defined as the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

Cloud computing has recently received wide press attention, however there is still surprisingly little concrete information available regarding the state of cloud computing initiatives in business. For example, what proportion of companies has implemented cloud implementations, how successful have they been, to what extent are master data management, data quality and data warehousing being deployed in the cloud, what benefits are companies seeing from in cloud deployment and what are the barriers and drawbacks to cloud computing?

The main findings from the survey, based on 70 responses, are summarized below:

- 49% already have some form of cloud deployment and a further 27% plan deployments in the coming year.
- 22% have at least 20% of their applications deployed in cloud but just 7% have more than 50% in cloud. This is unsurprising given the high volume of legacy applications in organizations that need to be interfaced to cloud deployments
- Just one-fifth (20%) trust public cloud deployment compared with 32% using private services.
- Few organizations have adopted infrastructure as a service (only 10%) with 61% reporting they have no plans in this area.
- Just 10% have data quality deployed as a cloud based service, with a resounding 54% having no plans to do so.
- MDM as a cloud service has been widely promoted however 59% reported that they have no plans to deploy MDM in the cloud. Just 2% are currently planning to deploy MDM as a cloud based service.
- 56% indicated that they have no plans to deploy data warehousing as a cloud service. 29% plan to implement in the coming year.
- The results suggest that data in the in cloud deployment appears to be in its infancy, with live deployments less extensive that the media would have us believe.
- Most organizations (29%) are using a pricing model for data in the cloud based upon the number of users.
- Interestingly, greater flexibility (39%) is preferred over saving money (27%) as a reason for deploying in cloud rather than on-premises systems.
- Fully 39% considered that in cloud offers at least slightly better value than on-premises. Only 7% suggested that in cloud offered worse value than on-premises.
- Fully 32% reported that their support costs were lower for in cloud deployments compared with on-premises. Indeed, a fifth (20%) found maintenance costs to be much lower.
- Encouragingly, no one reported that installation testing is worse than for on-premises, indeed, 42% believed it to be much better.
- 44% reported that in cloud is easier and quicker to implement than on-premises but the position is less clear-cut than that would suggest since 20% considered in cloud harder to implement. A further 20% said it was about the same as on-premises.
- In cloud is slightly more reliable than on-premises deployments but the difference is marginal. Some 24% considered internal IT more reliable than in cloud.
- The two main drawbacks to deployment of in cloud services were “integration with existing applications” and “security”.
- Security and integration with existing applications were also cited as the two main barriers preventing organizations from further deployment of in cloud services. Security is a major area of concern.

- The main technologies deployed in organizations for in cloud services are Microsoft, Amazon, Salesforce.com and Google as clear leaders; however the market is highly fragmented.
- Concern was expressed relating to the storage and access to large data sets on remote servers. In these cases it was felt that on-premises was to be preferred over in cloud.

BACKGROUND TO THE SURVEY

"Cloud computing" is defined as the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

Cloud computing has recently received wide press attention, however there is still surprisingly little concrete information available regarding the state of cloud computing initiatives in business. We believe the time is ripe to survey this area in depth.

In this survey we investigate the adoption of cloud computing in depth. Specifically, we will address such questions as:

- What proportion of companies has implemented cloud implementations?
- How successful have they been?
- To what extent are master data management, data quality and data warehousing being deployed in the cloud?
- What benefits are companies seeing from the cloud?
- Which are the drawbacks to cloud computing?

THE APPROACH

The Information Difference survey, ***"Data in the Clouds"***, was conducted over the Internet during the period March to May 2014. The participants were selected by email invitations originating directly from The Information Difference. Participation was also possible via a link from The Information Difference Ltd. website and via links on **LinkedIn**.

The survey was targeted at senior business and IT leaders worldwide, drawn from larger organizations (with revenues greater than US $1 billion annually).

The participants were provided with the following information prior to completing the survey:

"Cloud computing" is defined as the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

There has been a clear trend in the industry towards so-called "cloud computing" in recent years, but there is little data on its true effectiveness. Just how widespread are cloud computing deployments? Are they really any cheaper to implement and maintain than traditional on-premise software? Are companies using mainly public or private cloud implementations, or hybrid? These questions and more are what we will explore in this survey.

All information provided will be used in aggregate form only and will be kept strictly confidential. The survey has around 20 questions on the topic and should not take more than 10 minutes to complete. In return for a fully completed survey you will receive a free summary of the analysis of the survey results. Additionally your name will be entered in a prize draw and the first five winners will receive a free vendor profile (worth $495) of their choice. We will also make a $2 contribution to the Red Cross for each fully completed survey.

The questionnaire is appended in the section headed Questionnaire.

ABOUT THE RESPONDENTS

Some 70 respondents worldwide took the survey. 51% were from North America (including Canada), 32% from Europe and the remainder (17%) from the rest of the world.

51% of the respondents were drawn from larger organizations with annual revenues in excess of US $1 billion. Indeed 7% were from organizations whose annual revenue last year was greater than US$ 50 billion. 49% were from companies with annual revenues below US $1 billion. This represents a balanced mix of both larger and small organizations. The detailed breakdown is shown as Figure 1.

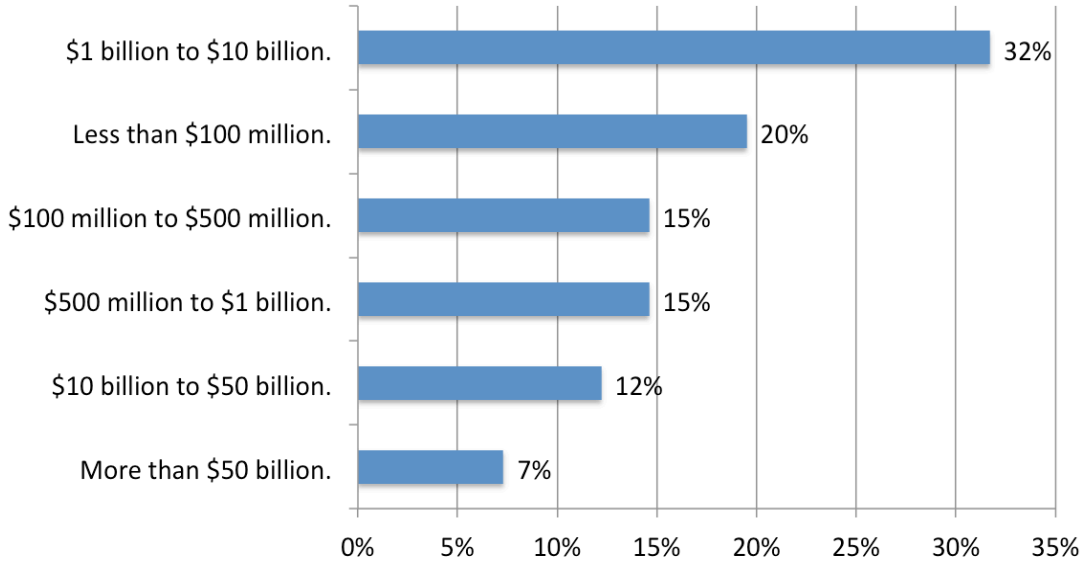

Figure 1 - Respondents by Company Revenue

Just 32% of the respondents were drawn from a business background with the majority having an IT role (68%). This likely reflects the current focus of cloud computing in the media towards the IT community. 39% had job titles at the Director level or above and 27% had the title of Enterprise Architect. The details are set out as Figure 2.

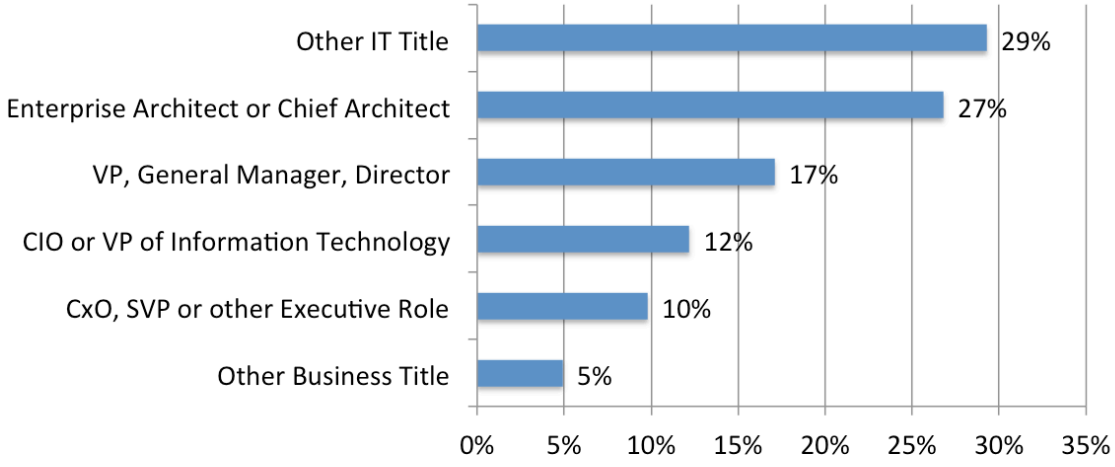

Figure 2 - Respondents by Job Function

The largest level of participation was from the banking, insurance, and financial services industry

(32%), perhaps supporting the view that the financial sector is seeking to reduce costs and identify new business opportunities to help it emerge from the financial crisis.

Pharmaceuticals, biotech and healthcare are second with 12% while manufacturing and retail are each represented by just 7%.

The remainder represents a wide range of industry sectors. The full results are shown in Figure 3.

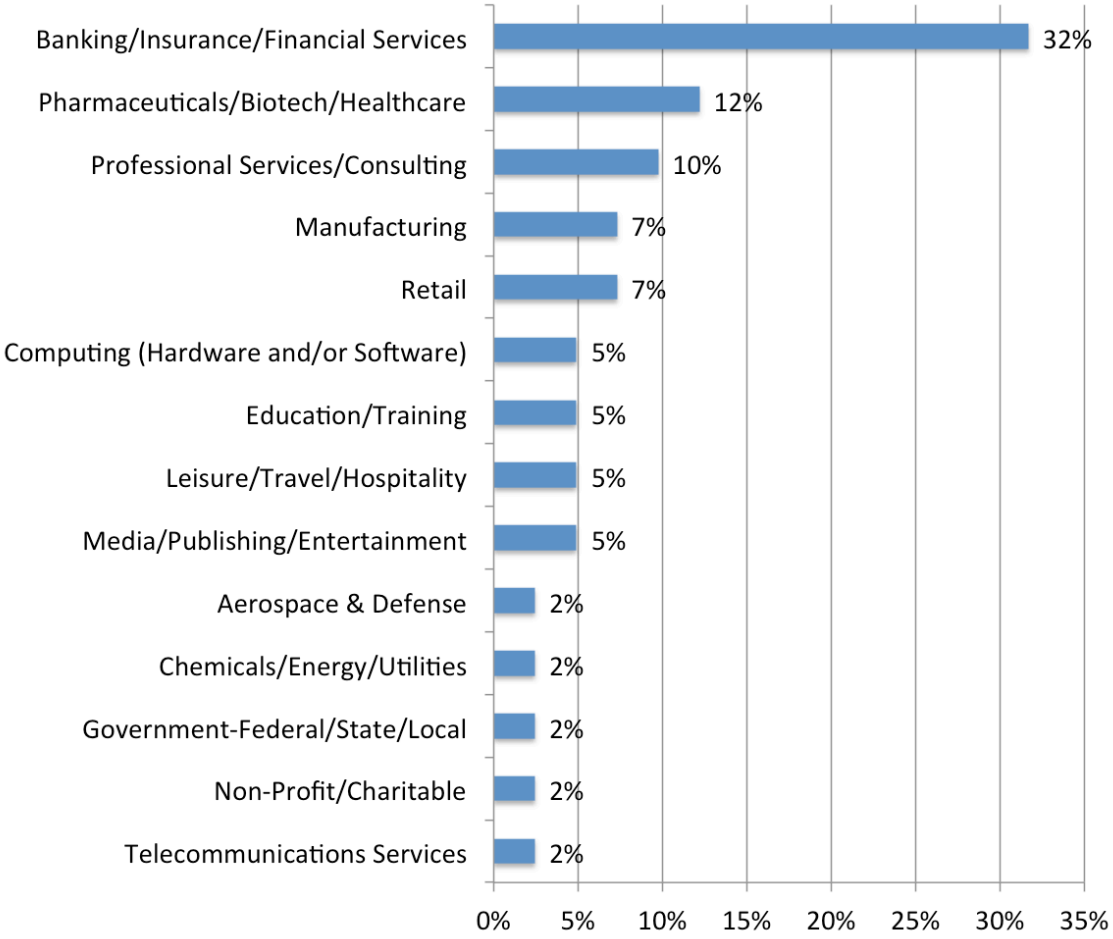

Figure 3 - Respondents by Industry Sector

The analysis of the results from the survey is presented below. The questions referred to in the text are indicated as [Qn] and are set out in full in the appendix headed "Questionnaire".

Apart from the exceptions mentioned in the text, analysis of the results from the survey for regional dependencies—for example, comparisons between Europe and North America—did not yield any statistically significant differences or trends.

ADOPTION OF CLOUD COMPUTING

We first asked respondents to tell us whether they had any form of cloud deployments [Q1]. Despite the fact that 49% claimed to already have some form of cloud deployment and a further 27% plan deployments in the coming year this seems to us a relatively low number. Cloud computing is hardly new. It has been heavily promoted in the media and by several vendors over the past five years. This suggests that perhaps adoption has been much slower than is commonly believed. Indeed, 12% plan never to have a single cloud deployment. The full results are shown as Figure 4.

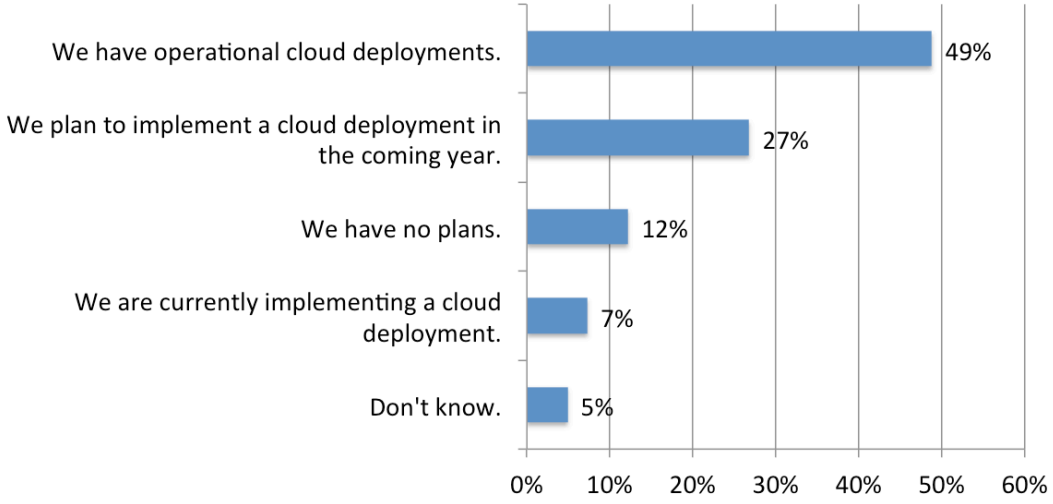

Figure 4 - Adoption of Cloud Computing

We then asked what was the current proportion (percentage) of their current application portfolio that was "in cloud" versus "on-premises" [Q8]. Interestingly, 22% appear to have at least 20% in cloud while only 7% have at least 50% in cloud. This is hardly surprising given the sheer volume of legacy applications that most organizations still have. The minimum value recorded was 0% and the maximum 75% with a mean value of 15% and a median of 5%. This result would tend to confirm our earlier conclusion that the adoption of cloud computing is less widespread that commonly thought.

We next asked respondents to tell us whether they were using private, public or hybrid cloud services [Q14]. The results are shown in Figure 5.

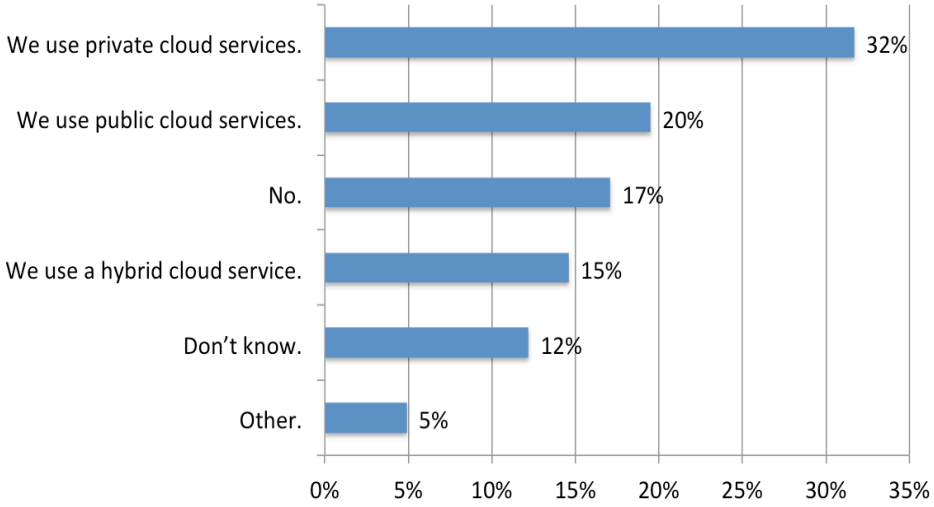

Figure 5 - Use of Public vs. Private vs. Hybrid Cloud

The blend of options here is interesting. Clearly only a fifth (20%) fully trust public cloud deployment against 32% opting to use private cloud services. Interestingly, 15% told us that they use a hybrid cloud service.

We were interested to understand in this hybrid case the relative proportions of "public cloud" vs. "private cloud" making up their hybrid services [Q15]. The mean values for the relative proportions were 57% private cloud and 42% public cloud with some reporting 90% private cloud and 10% public cloud while others reported 34% private cloud with 66% public cloud. We conclude that in broad terms public cloud appears to be less popular. We will explore the reasons for this later.

Continuing the theme of cloud based computing we asked respondents to tell us whether they were making use of infrastructure as a service (e.g. Savvis or Century Link, etc.) [Q18]. The results are presented in Figure 6.

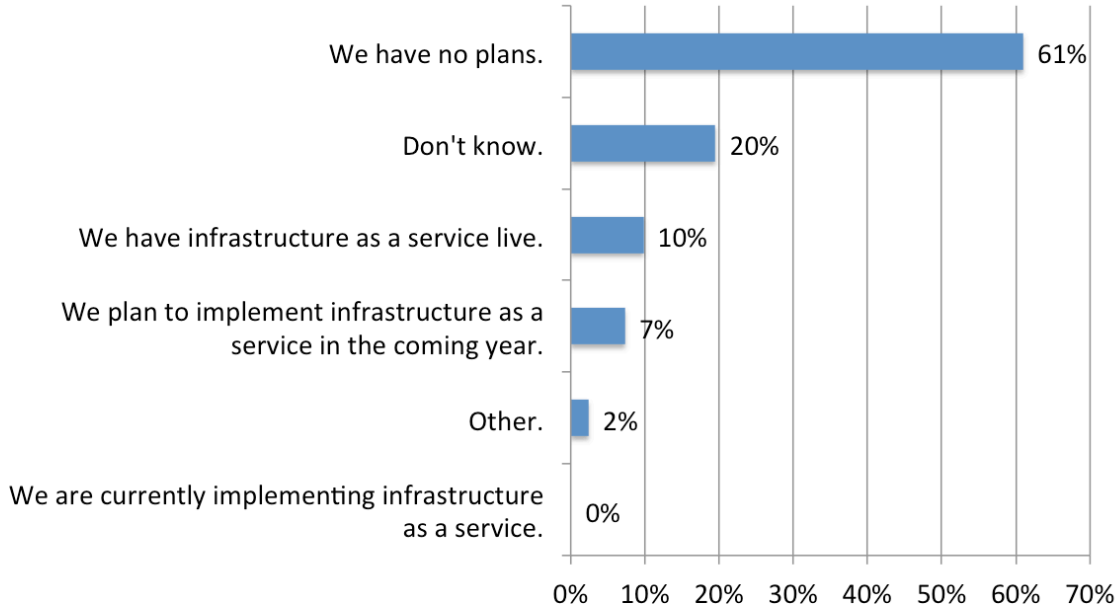

Figure 6 - Adoption of Infrastructure as a Service

Fully 61% clearly have no plans in this area. Interestingly despite this being something of a niche area some 10% have a live deployment and a further 7% are planning to implement infrastructure as a service in the coming year.

It appears from the above that deployment of cloud computing is still in its infancy despite major promotion by key vendors and in the media. Also there appears to be a greater degree of trust in private cloud services.

WHAT IS BEING DEPLOYED?

What applications are organizations deploying in the cloud? In particular, are for example, master data management (MDM), data quality and data warehousing being deployed in the cloud by businesses? These cloud-based services have received extensive vendor and media promotion especially in the past couple of years. We asked respondents to tell us about the position in their organizations [Q2, Q3 and Q4].

So how widespread is adoption of data quality in the cloud? We asked respondents to tell us about

the position in their organizations [Q2]. The responses are summarized in Figure 7.

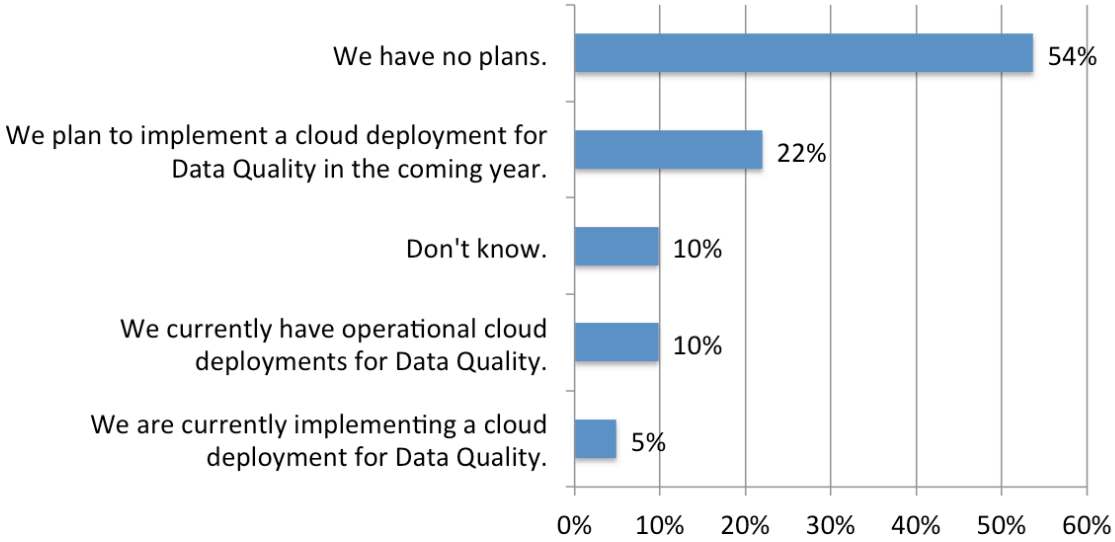

Figure 7 - Deployment of Data Quality as a Cloud Service

Just 10% have data quality as a cloud based service with a further 5% currently deploying and 22% planning to deploy in the coming year. A resounding 54% have no current plans. This squares up with findings from our previous surveys[1] on data quality where relatively few businesses had deployed data quality tools.

What about MDM? This has been widely promoted by vendors offering in cloud services. We asked the respondents about the position [Q3]. The full results are presented as Figure 8.

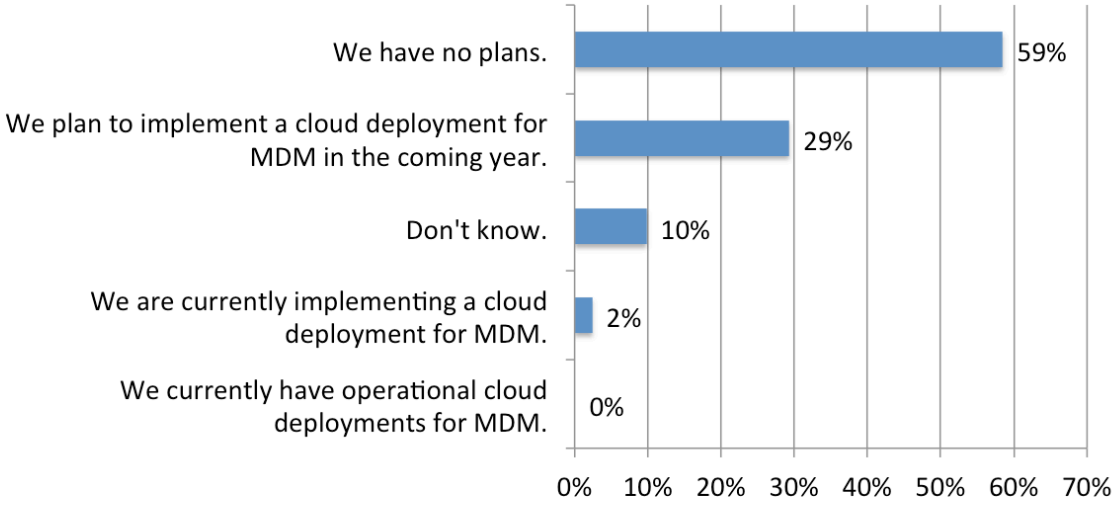

Figure 8 - Deployment of MDM as a Cloud Service

Just 2% are currently implementing MDM as an in cloud service with 29% planning to do so this coming year. This is perhaps no great surprise in view of our recent conversations with MDM vendors. Many vendors have cloud options but we understand that few vendors have seen significant take up. Perhaps the 29% with near future plans will be encouraging for them. Again, we note a resounding 59% who have no plans to deploy. This is a pretty firm message for MDM vendors.

[1] Data Quality Survey Report

Is the position any better with deployment of data warehousing as a cloud based service? This is another area that has received much attention from the vendors [Q4]. The results are set out in Figure 9.

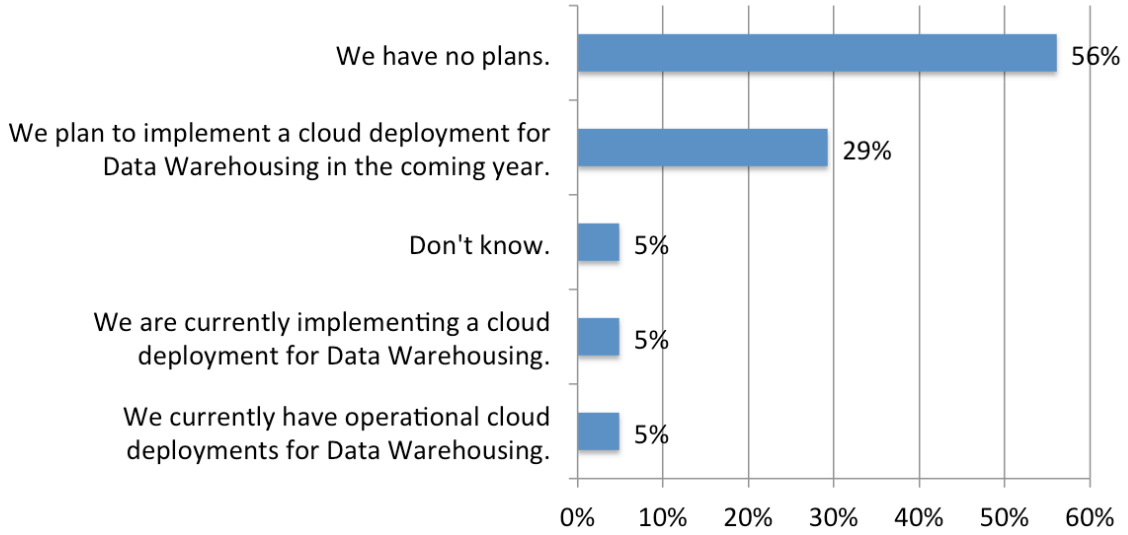

Figure 9 - Deployment of Data Warehousing as a Cloud Service

Here again we see a clear message with 56% indicating that they have no plans. Just 10% already have or are currently implementing data warehousing as a cloud based service. Again this is a meagre take up. Encouragingly for the data warehousing vendors some 29% told us that they plan to implement a cloud deployment for data warehousing in the coming year.

Clearly these results again confirm that adoption of in cloud services is less extensive than the media would have us believe. Why is this? Let us look further.

COSTS AND BENEFITS OF CLOUD COMPUTING

We then turned to explore the experience of organizations relating to the costs and benefits of cloud computing. We firstly asked about the pricing models that their main cloud computing services used [Q5]. The main results are summarized in Figure 10.

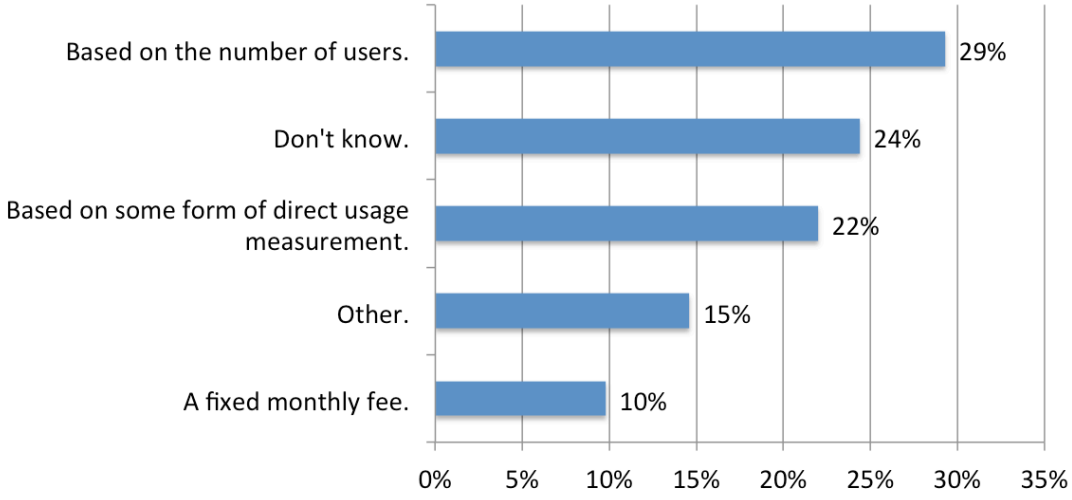

Figure 10 - The Pricing Models for Cloud Computing

Most organizations (29%) were using a pricing model based upon the number of users. Relatively few were using cloud deployments priced according to a fixed monthly fee (10%). Surprisingly, 24% reported that they didn't know how their implementation was priced which is a little scary. Around a fifth (22%) were based on some form of measurement of direct usage – a form of pay as you go model.

We next asked why organizations chose to adopt an in cloud approach rather than on-premises [Q6]. Their responses are brought together as Figure 11.

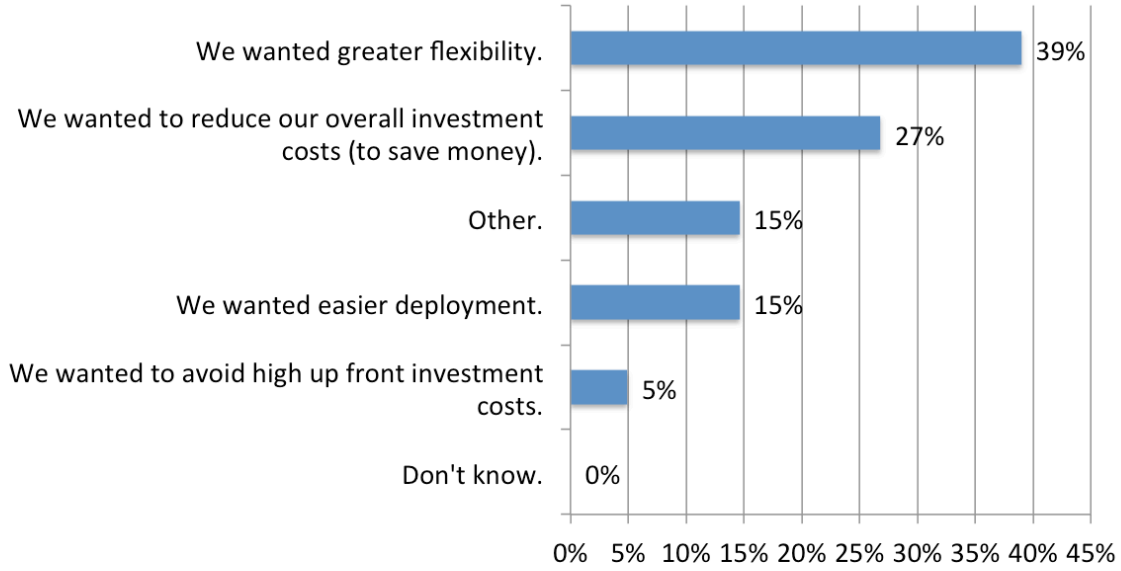

Figure 11 – In Cloud vs. On-Premises

It is interesting here that greater flexibility is much preferred (39%) to saving money (27%), which one might think would be their highest priority. Indeed, greater flexibility is also preferred over easier deployment. Clearly organizations value the agility that cloud deployments can offer to change and adapt as business changes and develops. The message here is clear: flexibility is and will become more so in future, a major plus point for cloud deployment. Other reasons given here included: all of the above, functionality of product, to save up front investments, greater flexibility, easier deployment and not core business.

What do organizations believe to offer the best value? We asked whether respondents considered in cloud represented better value than on-premises or perpetual licenses [Q7]. Their responses are summarised in Figure 12.

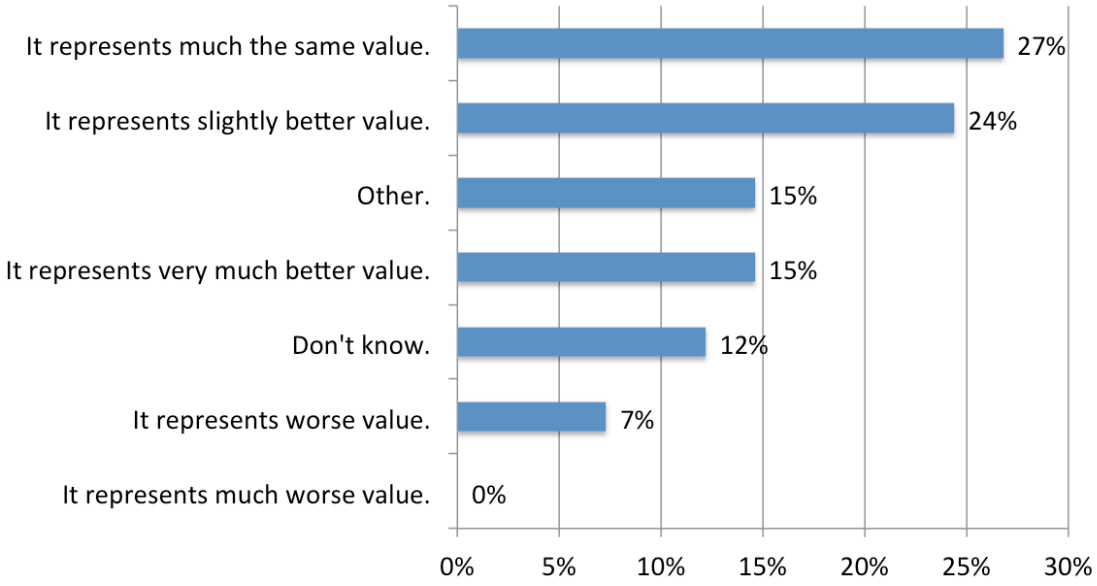

Figure 12 - Value of In Cloud vs. On-premises

Only 7% felt in cloud offers worse value than on-premises. Indeed fully 39% considered that in cloud offers at least slightly better value and 15% believed that it represents much better value. Clearly this is a very positive outcome in favour of in cloud here with only 27% suggesting that there was little difference.

Continuing the theme of costs we asked respondents to indicate whether their maintenance costs (always a significant proportion of the on-going implementation costs for traditional solutions) were lower for in cloud deployments [Q9]. The results are shown in Figure 13.

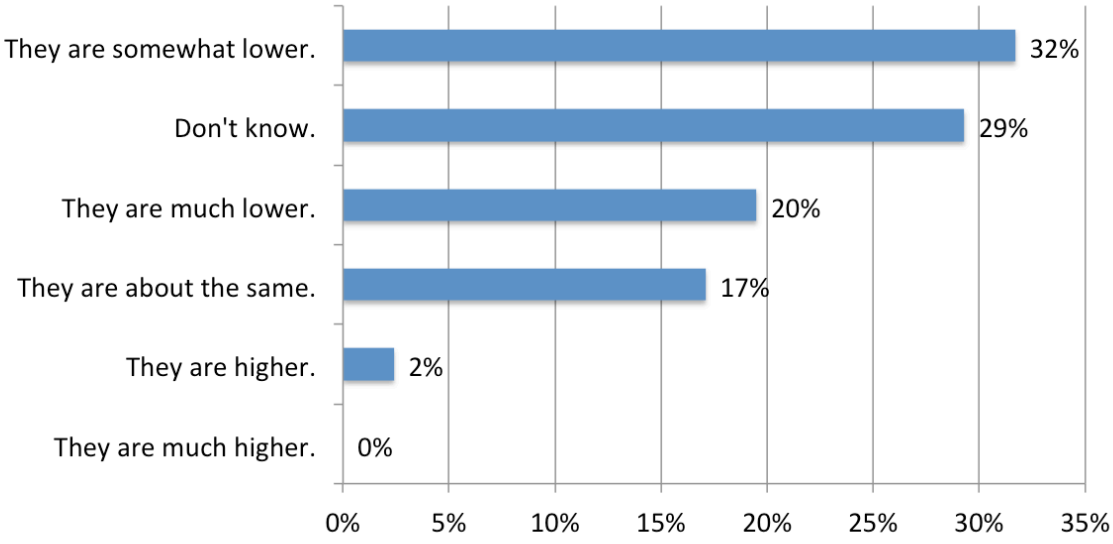

Figure 13 - Maintenance Costs for In Cloud vs. On-premises

Fully one third (32%) told us their support costs were somewhat lower for in cloud deployments and a fifth (20%) found them to be much lower. Indeed, only 2% recorded that their support costs were higher. This overwhelming advantage in terms of support costs is much in line with expectations and with the advantages propagated in the media. This is a clear benefit above on-premises deployments.

But what about installation testing – is this easier and better than on-premises deployments [Q10]. Again, the feedback from the respondents is set out in Figure 14.

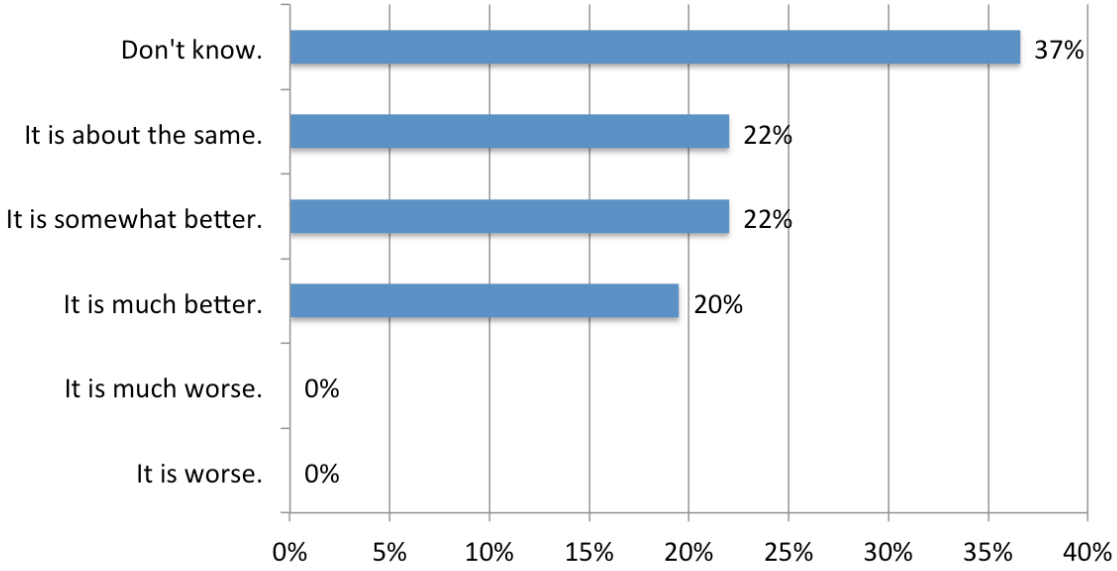

Figure 14 - Installation Testing for In Cloud vs. On-premises

Encouragingly, no one reported that installation testing is worse than for on-premises. Indeed, 42% believed it to be much better. So clearly in cloud wins out on the ease of installation testing. This is clearly another benefit above on-premises deployment.

So how easy is it in general to implement an in cloud deployment? We asked respondents to give us their views [Q11] as shown in Figure 15.

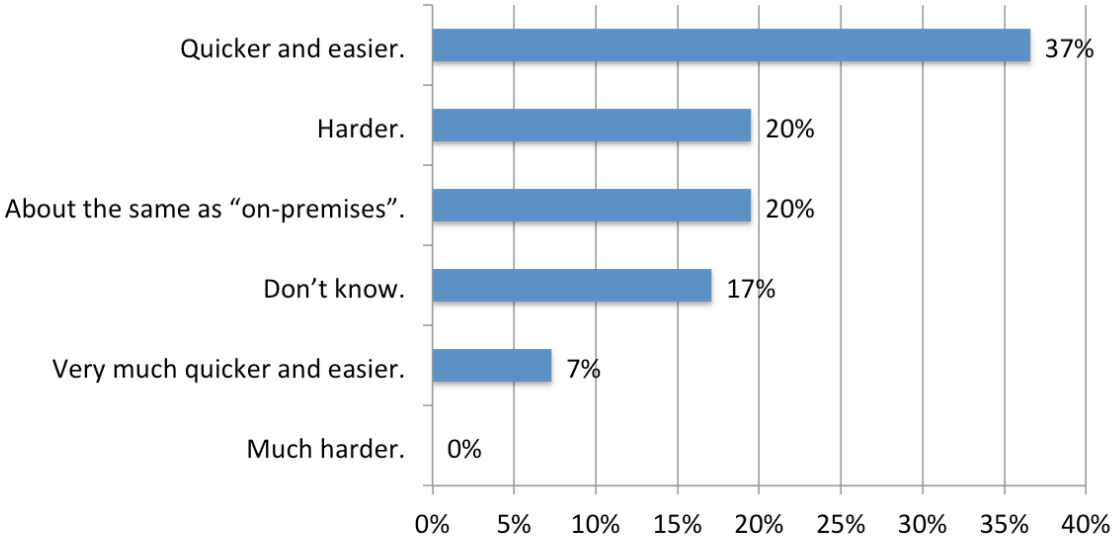

Figure 15 - Relative ease of implementation

The position is less clear-cut here with 20% considering that in cloud is harder to implement than on-premises. One would assume that this is tied in to the complexity of building interfaces from existing applications systems. Nonetheless there appears to be a sizable majority (44%) believe that it is quicker and easier to deploy in cloud over on-premises.

Finally, what are the views of the respondents about the reliability of internal on-premises implementations? We asked do you believe that your internal IT is more/same/less reliable than cloud services [Q16]? The responses are shown in Figure 16.

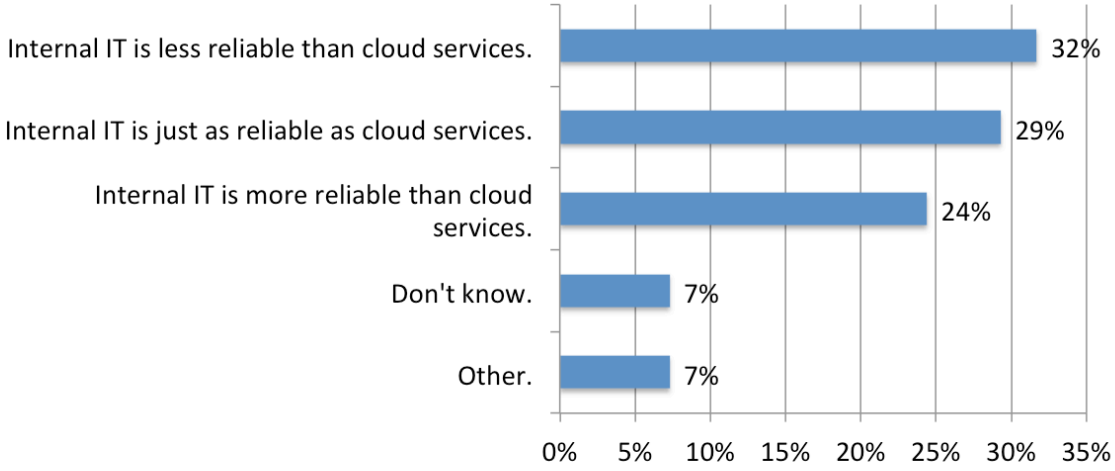

Figure 16 - Reliability of In Cloud Deployments

Surprisingly, the results suggest that in cloud is slightly more reliable that on-premises but that the difference is marginal. Just 32% considered internal IT less reliable than in cloud services. With just under one third (29%) reporting that they were about the same. Indeed, 24% thought that internal IT was more reliable than their cloud services. This suggests that the whole area of reliability is one to which vendors need to devote considerably greater attention.

So in summary in regard to costs and benefits we can conclude that:

- The two most common pricing models are based on the number of users or payment based on some measure of usage
- Greater flexibility is valued over costs reduction for in cloud deployment
- 39% told us that in cloud represents at least slightly better value than on-premises
- In cloud offers much lower maintenance costs
- 42% reported that in cloud was much better in terms of installation testing
- 44% considered in cloud to be quicker and easier to implement than on-premises
- The relative reliability was less clear-cut with 24% considering that cloud services were less reliable than on-premises and 29% reporting that internal IT is just as reliable as cloud services.

BARRIERS TO ADOPTION OF CLOUD COMPUTING

We then asked respondents to share with us what they believed to be the main current drawbacks to deployment of cloud computing [Q12]. This was presented in the form of a multiple selection so the percentages reflect the frequency of selection rather than a proportion. Their responses are summarized in Figure 17.

Significantly the main drawbacks are seen as “integration with existing applications” and “security”. This is unsurprising since most large organizations have a plethora of legacy applications that will require to be linked in some way with cloud software. Security is also of major concern since cloud computing often requires organizations to place key business data on servers owned and managed by external parties. What is perhaps surprising is that “reliability” appears to have received a low ranking despite the recent media attention devoted to cloud outages.

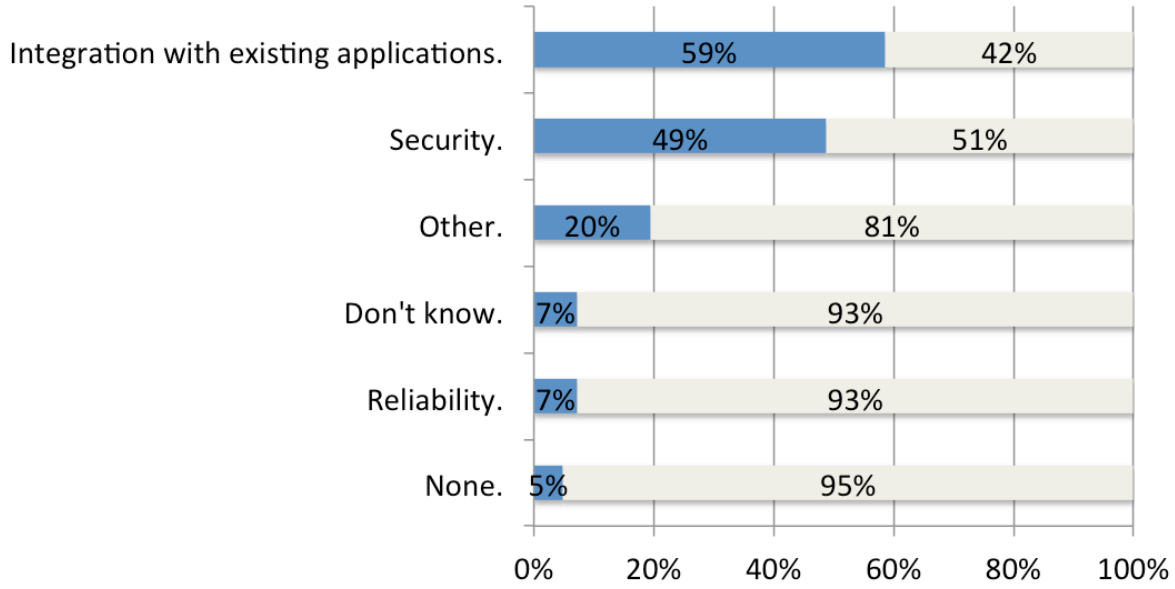

Figure 17 - Drawback to In Cloud Computing

Other drawbacks noted by respondents included: Integration in general, the lack of control over the physical installation and the location of the server and legal status of data. This latter concern has featured recently in much media attention regarding the legal rights of governments in countries where servers are located to demand access to business data. We feel this will remain an area of substantial concern – especially for public cloud deployments. There is currently little indication that the legal status of such data will be clearly resolved in the near future.

Continuing this theme, we then asked respondents to tell us what they viewed as the main barriers to further adoption of cloud deployments in their companies [Q13]. The views expressed largely mirror the drawbacks reported above and are summarized in Figure 18. It should be noted that here again this was presented in the form of a multiple selection so the percentages reflect the frequency of selection rather than a proportion.

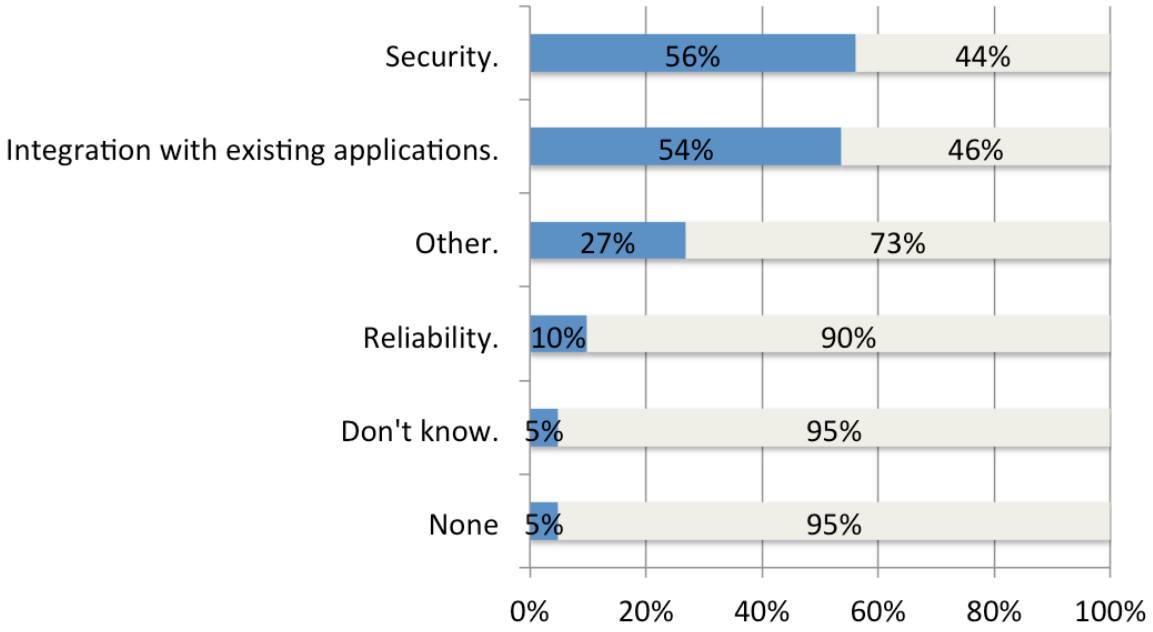

Figure 18 - Barriers to implementation of In Cloud

Once again, security and integration are seen as the major barriers for organizations to undertake further deployment of cloud computing. Here however, security was more frequently cited as the barrier. We asked respondents to indicate any other barriers in addition to those above. Their responses included: the ability to establish full functionality required in a multi-tenant environment, the as yet uncertain cost benefits or lack thereof, data sovereignty, there being no cloud offering for remaining production applications and the perceptions of compliance and risk.

Clearly the picture emerging here is that while there is clear interest in deployment of cloud computing in organizations, security and integration with legacy applications remain major areas of concern and if not addressed will severely hinder the further take up of cloud computing.

TECHNOLOGY DEPLOYED

So which technologies are being deployed to deliver cloud services? We asked respondents to tell us what they had deployed in their organization [Q17]. The results show a highly fragmented market with Microsoft, Amazon, Salesforce.com and Google as clear leaders but with many other smaller players represented. The full results are shown in Figure x. It is important to note that since multiple sections were allowed for this question the percentages do not represent an overall share but are indicative of the frequency of selection.

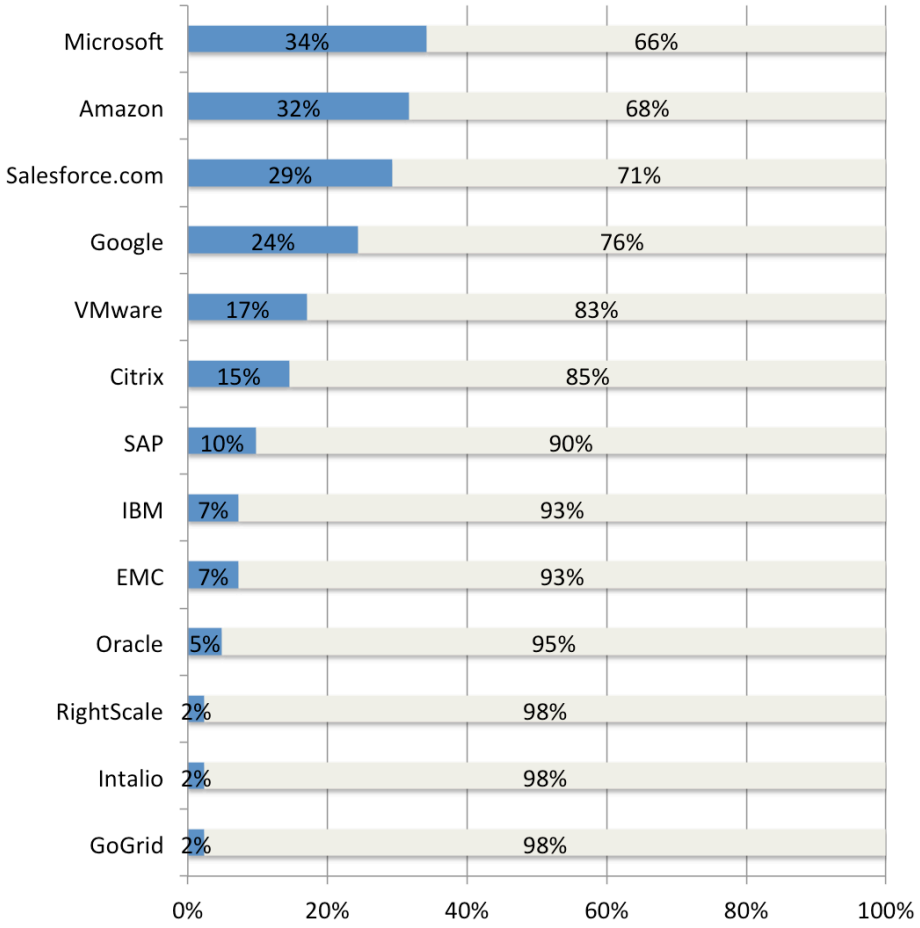

Figure 19 - Technologies deployed for in cloud

Other technologies deployed mentioned by the respondents included: BlueSource, DropBox, CrashPlan, Carbonite, Intuit, PowerSchool, Reltio, Telstra, ZOHO and Navaho.

It is clear that the market is substantially fragmented with many major software vendors such as SAP, IBM and Oracle failing to reach the dominant position they have achieved in their traditional areas.

ADDITIONAL COMMENTS

Finally, we asked the respondents to make any further comments that they might wish to share with us [Q19]. These included:

- As software providers, we use it to provide a service to our clients.
- Cloud applications built to be more flexible, easier to change.
- For a small, distributed organization, it is a necessity.
- I think we should consider cloud computing but I am not in a position to make or push that route.
- Infrastructure is not core business for us.
- It is a platform we will consider once security and integrity of the data are assured.
- It still has no role in our organization.
- We only plan to use the cloud where elasticity in footprint is a factor.
- Cloud still very premature in our organization.
- We are at initial stage and researching what and how to implement Cloud technology.
- We are still investigating the benefits. Our brief experience a few years ago showed the cloud to be much, much more expensive than internal infrastructure. There were many costs that came up far beyond the initial estimates. This has made us very leery of considering future cloud computing.
- There are certain types of applications that are not appropriate for cloud-based services, such as AutoCAD, Photoshop, and ArcGIS desktop. These applications are to dependent on dedicated high-end graphics cards and also large data sets that are far too large for remote storage over Internet connections. For these reasons, for the foreseeable future, AEC industry firms will continue to have both on-premise fileservers to provide 1-10 Gb connectivity to their on-premise CAD/GIS workstations.
- We are looking in the market for BI and Data Warehouse infrastructure-as-a-service as well as BI-application-services-as-a-cloud. We have not decided anything yet within this area.
- Could is promising but privacy and integration challenges and data movements outside the enterprise are challenges, private clouds are main stream, hybrid is shaping up.
- Very sketchy lot of talk but no plans currently however we will keep close to this in the coming year.
- I see a definite value, but as an organization we have not yet fully defined its role and how we want to leverage it. The initial cloud activities have been more opportunistic vs. strategic.
- Cloud is not anything new - we had virtual machines and globally centralized servers for a long time.
- With data warehousing and analytics use cases, the benefits, costs, performance, and risk need to be evaluated for each deployment.
- We will start with Cloud for non-production and pilot. Eventually we will move many of our services to industry specific /private cloud.

- Other than the obvious security risks, moving towards cloud solutions as an objective for cost reduction and flexibility increase for users are the main drivers. However until now non exhaustive in our overall cost factors to take into account to prove the economical benefit.

The observation above relating to storage of larger data sets on remote servers is very relevant. For those businesses that are dependent on the access to and analysis of large data sets it seems likely that on-premises solutions will remain key.

CONCLUSIONS

Key conclusions and recommendations resulting from the survey analysis are summarized below. These have been split into two groups: those of direct relevance to enterprises and organizations considering or in the process of implementing (or who have already implemented) Data in the Cloud initiatives, and those relating to the software vendors and systems integrators (SIs).

Enterprises

- 49% already have some form of cloud deployment and a further 27% plan deployments in the coming year. This seems a somewhat low take up given the fact that cloud computing is hardly new and that it has received much media attention over the past couple of years. We suggest that the take up has been much slower that is commonly believed.
- 22% have at least 20% in cloud but just 7% have more than 50% in cloud. This is unsurprising given the high volume of legacy applications in organizations that need to be interfaced to cloud deployments. This may be a further factor contributing to the apparently slow take up.
- Clearly only one-fifth (20%) trust public cloud deployment compared with 32% using private services. In broad terms public cloud is less popular.
- Relatively few organizations gave adopted infrastructure as a service (only 10%) with 61% reporting they have no plans in this area.
- Just 10% have data quality deployed as a cloud based service with a resounding 54% having no plans to deploy this.
- MDM as a cloud service has been widely promoted however 59% reported that they have no plans to deploy MDM in the cloud. Just 2% are currently planning to deploy MDM as a cloud based service. This reflects the feedback that we have had in discussions with MDM vendors.
- The position is no better with deployment of data warehousing as a cloud based service with 56% indicating that they have no plans. 29% plan to implement in the coming year.
- In general the results suggest that data in the in cloud deployment appears to be in its infancy with live deployments less extensive that the media would have us believe.
- Most organizations (29%) are using a pricing model for data in the cloud based upon the number of users.
- Interestingly, greater flexibility (39%) is preferred over saving money (27%) as a reason for deploying in cloud rather than on-premises systems.
- Fully 39% considered that in cloud offers at least slightly better value than on-premises. Only 7% suggested that in cloud offered worse value than on-premises.
- Fully 32% reported that their support costs were somewhat lower for in cloud deployments compared with on-premises. Indeed, a fifth (20%) found maintenance costs to be much lower.
- Encouragingly, no-one reported that installation testing is worse than for on-premises, indeed, 42% believed it to be much better.
- Some 44% told us that in cloud is easier and quicker to implement than on-premises but the position is less clear cut than that would suggest. 20% considered in cloud harder to implement, presumably because of the complexity of building interfaces to existing applications.

- Surprisingly, respondents reported that in cloud is slightly more reliable than on-premises deployments but the difference is marginal. Some 24% considered internal IT more reliable than in cloud. This possibly reflects the recent spate of outages with cloud-based services. This is clearly a key area that vendors need to address.
- The two main drawbacks to deployment of in cloud services were reported to be "integration with existing applications" and "security". This is unsurprising given the large number of legacy applications in most organizations. Surprisingly, "reliability" appears to be considered less of a drawback.
- Security and integration with existing applications were also cited as the two main barriers preventing organizations from further deployment of in cloud services. Security is a major area of concern given the complex and often unclear legal position of data held on server parks in various countries. There is a lack of clarity regarding the rights of governments and other bodies to gain access to business data. This is clearly a concern form most companies. Again this is an area requiring urgent attention from both vendors and government institutions.
- The main technologies currently being deployed in organizations for in cloud services are Microsoft, Amazon, Salesforce.com and Google as clear leaders however the market is highly fragmented.
- Concern was expressed relating to the storage and access to large data sets on remote servers. In these cases it was felt that on-premises was to be preferred over in cloud.

Vendors

- 27% plan further deployments of in cloud this coming year. This is a major opportunity for vendors to engage with companies. In particular, vendors need to develop more extensive case studies and examples of how in cloud services can support organizations. Those vendors offering MDM, data quality and data warehousing in cloud services have major opportunities since the take-up in these three areas has been relatively low to date. However, around 29% have plans to deploy data warehousing, 29% MDM and 22% data quality in the coming year. Time to engage!
- The area of integration with organizations existing applications is one that urgently requires the attention of vendors. This area is cited by respondents as both a drawback and a barrier to further deployment of in cloud services. Vendors would do well to address development of configurable interfacing and APIs that can help to reduce the burden of interfacing.
- Security remains a major barrier for many organizations especially those operating globally. Vendors need to seek solutions to help reassure organizations that their valuable customer, product and other business data will be able to be secure and as far as possible protected from access by unauthorized persons and government organizations.
- Many vendors currently promote deployment of in cloud as quicker and easier than on-premises. This is not aligned with the experience of organizations deploying in cloud. Vendors need to take on this challenge if they are to increase their installed base.
- Respondents indicated that in cloud is slightly more reliable than on-premises but told us that the difference is marginal. Here again, vendors need to take on the challenge of significantly improving the reliability of in cloud services. Their image has suffered recently from a number of high profile outages of in cloud services. This is all about building confidence.

ABOUT THE INFORMATION DIFFERENCE

The Information Difference is an analyst firm focusing primarily on master data management (MDM), data quality, and data governance. Our founders are pioneers who helped shape the MDM industry with in-depth global project experience. We offer detailed analysis of these industries, in-depth profiles of the MDM and data quality vendors, assessments of the marketplace and white papers discussing key issues and best practice. Additionally, we can offer advice on strategy, vendor selection and best practice in these areas. We carry out primary market research and can help you with MDM project justification, building the business case and return on investment.

QUESTIONNAIRE

The full questionnaire used in the survey is included below. The navigation logic is not shown in the interests of clarity.

Data in the Clouds

Introduction

"*Cloud computing*" is defined as the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

There has been a clear trend in the industry towards so-called "cloud computing" in recent years, but there is little data on its true effectiveness. Just how widespread are cloud computing deployments? Are they really any cheaper to implement and maintain than traditional on-premise software? Are companies using mainly public or private cloud implementations, or hybrid? These questions and more are what we will explore in this survey.

All information provided will be used in aggregate form only and will be kept strictly confidential. The survey has around 20 questions on the topic and should not take more than 10 minutes to complete. In return for a fully completed survey you will receive a free summary of the analysis of the survey results. Additionally your name will be entered in a prize draw and the first five winners will receive a free vendor profile (worth $495) of their choice. We will also make a $2 contribution to the Red Cross for each fully completed survey.

Please note that questions marked with an asterisk (*) are mandatory.

1) Do you have cloud deployments of any kind?*

- ○ We have operational cloud deployments.
- ○ We are currently implementing a cloud deployment.
- ○ We plan to implement a cloud deployment in the coming year.
- ○ We have no plans.
- ○ Don't know.

2) Do you have Data Quality in the cloud?*

- ○ We currently have operational cloud deployments for Data Quality.
- ○ We are currently implementing a cloud deployment for Data Quality.
- ○ We plan to implement a cloud deployment for Data Quality in the coming year.
- ○ We have no plans.
- ○ Don't know.

3) Do you have Master Data Management (MDM) in the cloud?*

- ( ) We currently have operational cloud deployments for MDM.
- ( ) We are currently implementing a cloud deployment for MDM.
- ( ) We plan to implement a cloud deployment for MDM in the coming year.
- ( ) We have no plans.
- ( ) Don't know.

4) Do you have Data Warehousing in the cloud?*

- ( ) We currently have operational cloud deployments for Data Warehousing.
- ( ) We are currently implementing a cloud deployment for Data Warehousing.
- ( ) We plan to implement a cloud deployment for Data Warehousing in the coming year.
- ( ) We have no plans.
- ( ) Don't know.

5) Is the pricing model for the main cloud services that you are using?*

- ( ) A fixed monthly fee.
- ( ) Based on the number of users.
- ( ) Based on some form of direct usage measurement.
- ( ) Other (Please specify): _____
- ( ) Don't know.

6) Why did you (or will you) choose to deploy an in cloud in place of on-premises solution?*

- ( ) We wanted to reduce our overall investment costs (to save money).
- ( ) We wanted to avoid high up front investment costs.
- ( ) We wanted greater flexibility.
- ( ) We wanted easier deployment.
- ( ) Other (Please specify): _____
- ( ) Don't know.

7) Do you consider that "in cloud" represents better value than on-premises or perpetual licenses?*

- ( ) It represents very much better value.
- ( ) It represents slightly better value.
- ( ) It represents much the same value.
- ( ) It represents worse value.
- ( ) It represents much worse value.
- ( ) Other (Please specify): _____
- ( ) Don't know.

8) Approximately what proportion (percentage) of your current application portfolio is "in cloud" versus "on-premise" (e.g 5%, 10% etc)?*

- 0
- 5
- 10
- 15
- 20
- 25
- 30
- 35
- 40
- 45
- 50
- 55
- 60
- 65
- 70
- 75
- 80
- 85
- 90
- 95
- 100
- Don't know

9) Are your maintenance costs lower with cloud based versus "on-premises" deployments?*

- They are much lower.
- They are somewhat lower.
- They are about the same.
- They are higher.
- They are much higher.
- Don't know.

10) Do you find the need for installation testing better than "on-premises" deployments?*

- It is much better.
- It is somewhat better.

- ◯ It is about the same.
- ◯ It is worse.
- ◯ It is much worse.
- ◯ Don't know.

11) Is implementing a cloud software project?*

- ◯ Very much quicker and easier
- ◯ Quicker and easier.
- ◯ About the same as “on-premises”.
- ◯ Harder.
- ◯ Much harder.
- ◯ Don’t know.

12) Are there any drawbacks to cloud deployment? Please select all that apply.*

- ☐ Reliability.
- ☐ Security.
- ☐ Integration with existing applications.
- ☐ Other (Please specify): _____
- ☐ No.
- ☐ Don't know.

13) What are the main barriers to further adoption of cloud deployments in your company? Please select all that apply.*

- ☐ Reliability.
- ☐ Security.
- ☐ Integration with existing applications.
- ☐ Other (Please specify): _____
- ☐ None.
- ☐ Don't know.

14) Do you use private cloud/public cloud/hybrid cloud services?*

- ◯ We use private cloud services.
- ◯ We use public cloud services.
- ◯ We use a hybrid cloud service.
- ◯ Other (Please specify): _____
- ◯ No.
- ◯ Don’t know.

15) If you have a hybrid cloud deployment please estimate the percentage private and public.*

Private cloud %-age

Public cloud %-age

16) Do you believe that your internal IT is more/same/less reliable than cloud services?*

- Internal IT is more reliable than cloud services.
- Internal IT is just as reliable as cloud services.
- Internal IT is less reliable than cloud services.
- Other (please specify):
- Don't know.

17) What are your main cloud providers? Please select all that apply.*

- Amazon
- Arjuna
- AT&T
- CA Technologies[3Tera]
- Citrix
- Cloudscale
- CloudSwitch
- CloudWorks
- Commensus Technologies
- Cynapse India
- EazeWork
- EMC
- Enomaly
- enStratus
- eVapt
- GoGrid
- Google
- GroupCamp
- IBM
- iCloud
- ImpelCRM
- Intalio
- Joyent

- [ ] Kaavo
- [ ] Layer7
- [ ] Microsoft
- [ ] Netmagic Solutions
- [ ] NetSuite
- [ ] Online Tech
- [ ] Oracle
- [ ] OrangeScape
- [ ] Oxygen Cloud
- [ ] Proxios
- [ ] Rackspace
- [ ] ReliaCloud
- [ ] RightScale
- [ ] Salesforce.com
- [ ] SAP
- [ ] Synage
- [ ] TeamWox
- [ ] VMware
- [ ] Wolf Frameworks
- [ ] Other (Please specify)
- [ ] Don't know

18) Do you have infrastructure as a service (e.g. Savvis or Century Link, etc.)?*

- ( ) We have infrastructure as a service live.
- ( ) We are currently implementing infrastructure as a service.
- ( ) We plan to implement infrastructure as a service in the coming year.
- ( ) We have no plans.
- ( ) Other (Please specify): _____
- ( ) Don't know.

19) Please enter below any additional views/comments which you may have in regard to the role of the cloud in your organization.

20) What was your company's total revenue last year?*

- ○ More than $50 billion
- ○ $1 billion to $10 billion
- ○ $500 million to $1 billion
- ○ $100 million to $500 million
- ○ Less than $100 million
- ○ $10 billion to $50 billion

21) Please select the main industry in which your company operates.*

- ○ Aerospace & Defense
- ○ Agriculture
- ○ Banking/Insurance/Financial Services
- ○ Chemicals/Energy/Utilities
- ○ Computing (Hardware and/or Software)
- ○ Construction
- ○ Education/Training
- ○ Government-Federal/State/Local
- ○ Leisure/Travel/Hospitality
- ○ Manufacturing
- ○ Media/Publishing/Entertainment
- ○ Metals & Mining
- ○ Non-Profit/Charitable
- ○ Pharmaceuticals/Biotech/Healthcare
- ○ Professional Services/Consulting
- ○ Real Estate
- ○ Retail
- ○ Telecommunications Services
- ○ Transportation Services
- ○ Other (Please specify): _____

22) Which of the following best describes your title or role in your company?( )*

- ○ CxO, SVP or other Executive Role
- ○ VP, General Manager, Director
- ○ CIO or VP of Information Technology
- ○ Enterprise Architect or Chief Architect
- ○ Other Business Title

Other IT Title

23) Are you willing to take part in a brief, confidential discussion on this topic with an Information Difference analyst?*

Yes

No

24) Would you be willing to share your contact information with our research sponsors in order to learn more about their products? Please select all that apply.*

Yes – DELL Boomi

No

25) Please provide brief contact details:*

First Name*:

Last Name*:

Company Name*:

Email Address*:

26) Please select your country from the drop down list.*