



WHITE PAPER

Adoption of Cloud: Private Cloud is Current Flavor but Hybrid Cloud is Fast Becoming a Reality

Sponsored by: Infosys

Marianne Kolding

September 2012

IDC OPINION

In July 2012, IDC carried out a survey of 326 large companies across the U.S., the U.K., France, and Germany, and 20 in-depth interviews with companies of more than 1,000 employees that are already in the process of implementing cloud.

These are the key findings and considerations for enterprises currently considering their next steps in adopting cloud:

- ☒ The majority of organizations are adopting cloud, though around two out of three organizations have yet to decide how to formalize a strategy for cloud. Around one in eight is currently just planning to put together a strategy and road map, and just around one in four has actually already done so.
- ☒ Although the strategy and road map may not be clear, 69% of respondents have, one way or another, embarked on the private cloud journey, while this number is around 40% when it comes to public and hybrid cloud.
- ☒ As companies' cloud adoption becomes more complex with a mix of public, private, and traditional delivery across different types of providers, expertise in how to monitor these environments and manage these in a holistic manner increases in importance in order to realize the promised cost savings. Most enterprises do not have these skills in-house.
- ☒ Cloud is mostly driven by IT-related issues, such as reducing IT costs and increasing the agility to support the business. U.S. organizations place a higher importance on business-related drivers (such as time-to-market and enabling new revenue streams) than do European organizations.
- ☒ Security, data location, and legal jurisdiction are still seen as challenges for cloud but they do not stop adoption. Internal resistance to cloud, even in the IT department, is also a challenge mentioned in the in-depth conversations. To some IT staff, cloud is seen as leading to loss of control of the IT environment (with implied increased security risks) and potentially leading to job losses.
- ☒ Companies still need buy into the vision of how cloud can help change business models and help them innovate overall — and not just how it can help improve internal processes. Consequently, enterprises have yet to see the full benefits that cloud promises to bring — and indeed the ROI.
- ☒ Adoption of cloud is still relatively immature and there is a lot of "slide ware" from vendors. IDC recommends that customers challenge external service vendors to provide proof points and business cases, particularly around migration, integration, and innovation claims.



IN THIS WHITE PAPER

In July 2012, IDC carried out a survey of 326 large companies in the U.S., the U.K., France, and Germany (with 55% of respondents in the Global 2000 companies and 71% with more than 1,000 employees) with a balanced representation of the main industry sectors.

In the survey, we explored cloud adoption plans, investment drivers and barriers, and preferred capabilities of external service providers assisting in the adoption journey. IDC also carried out 20 in-depth interviews with large companies (1,000+ employees) in order to obtain even deeper insight into the status and approach to cloud. These companies have already started their cloud journey.

This IDC White Paper highlights the key findings from the survey and provides organizations with some key considerations as they continue the journey toward cloud adoption and decide on the best approach to realize the promised benefits.

SITUATION OVERVIEW

Setting Out the Road to Cloud

Although most organizations are in the process of adopting cloud, for the majority the journey to adopt cloud across the IT environment is only just beginning. According to the survey undertaken for this paper, around two out of three organizations have yet to decide how to formalize their strategy for cloud, around one in eight is currently just planning to put together a strategy and road map, and just around one in four has actually already done so. However, these results mask strong variations in the countries covered by the survey, as shown in Figure 1.

The survey indicates that U.S. organizations are less likely to have set a formal cloud strategy and road map compared with European organizations. On the face of it, this is a surprising finding since U.S. organizations typically lead European organizations in adoption of new technologies. However, based on IDC's ongoing research and conversations with CIOs in Europe and the U.S., we believe that there is scope for interpretation of the results. In the U.S., cloud seems to be more integrated into the overarching IT strategy rather than being a standalone (cloud) silo within it. This indicates a higher level of cloud maturity in U.S. organizations. Similarly, although more European organizations claim to have shaped a clear cloud strategy, the reality is quite often that this is a nascent strategy where the actual road map and approach still need to be fleshed out, and indeed integrated into the more holistic IT strategy.

A larger proportion of organizations in the financial services and telecoms sectors have formalized cloud strategies and roadmaps than have other sectors (38% and 53% respectively), while retail sector organizations have yet to take this step.

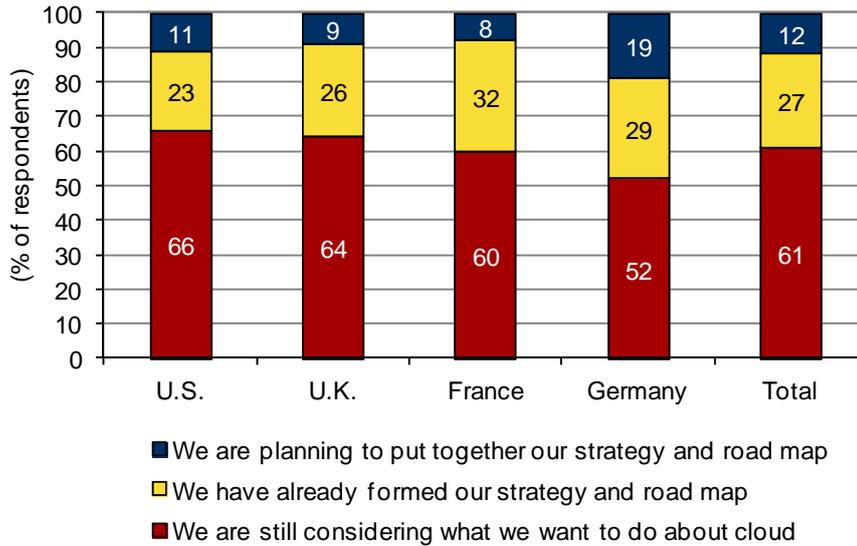
Another aspect is what is really driving adoption of cloud in the first place: business or IT. The research shows that U.S. organizations have a more balanced view of the importance of IT and business drivers for cloud adoption than European organizations. While 41% and 47% of U.S. organizations say business and IT drivers respectively are very or extremely important for cloud adoption, European organizations show a wider variation of around 15 percentage points between the two types of drivers, with IT being the most important. Again, this underpins the argument that U.S. organizations generally take a more holistic and mature approach to cloud.

There were minor variations between the European countries in terms of what is driving cloud adoption, with IT-related drivers seen as slightly more important for French companies than for their U.K. and German counterparts.

FIGURE 1

Cloud Strategies and Roadmaps

Q.: How would you characterize your company's current cloud strategy/road map status, regardless of whether you are using cloud or not?



Source: IDC, Infosys Cloud Study, 2012

Private Cloud is Mainstream but Hybrid Cloud is Gaining Momentum

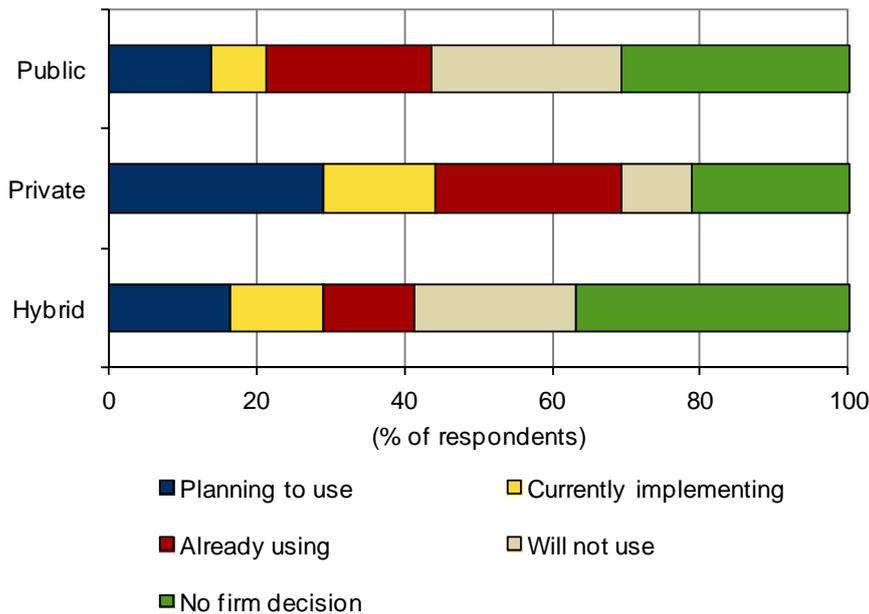
So how do organizations approach cloud? The survey results clearly show that private cloud is currently the dominant approach for most companies (see Figure 2). Although they may not have formalized their strategies and road maps, 69% of respondents have, one way or another, embarked on the private cloud journey, while this number is around 40% when it comes to public and hybrid cloud. However, when we look at how many companies are already using the different types of clouds, there is little difference between private and public.

Other studies that IDC has conducted support these findings. Organizations are "dipping their toes" into public cloud for some specific areas, but when it comes to the core IT environments, they are starting out with private cloud. Connecting the two into a hybrid model is gaining momentum. The key concerns here are how to overcome the complexities, as our survey results also imply (see below under "Engaging Service Providers to Help on the Cloud Journey").

FIGURE 2

Adoption of Public, Private, and Hybrid Cloud

Q.: *Thinking about public and private cloud, which of the following best describes your organization's status?*



Source: IDC, Infosys Cloud Study, 2012

Currently, cloud is used mostly for the infrastructure environment (42% of respondents) although cloud for core and non-core applications and processes is not far behind (37% of respondents). Nevertheless, our in-depth conversations with cloud decision makers clearly indicate that the different types of cloud are seen as best serving different purposes. Says the CIO of a large healthcare provider in the U.K.:

"Almost all general IT applications have a cloud element — we have private cloud infrastructure for storage and email. We have SaaS-based collaboration applications and there are now some enterprise applications supported by cloud-based databases. There are a handful of instances of cloud-based virtual servers for test and small-scale applications that require significant processing power in R&D."

Organizations Are Yet to Realize the True Potential of Cloud

Cloud holds the promise of helping companies reinvent the way they do business and create new markets, but few seem to have this vision yet. IDC has seen some companies successfully launching cloud initiatives where the end results are new revenue streams and even marketing people sitting inside the IT department to ensure that as many IT investments as possible can be monetized. When enterprises manage to bridge the IT and business drivers, cloud will come to its fore.

However, most enterprises are currently focused on IT-related drivers for cloud adoption — reducing the cost of IT and increasing IT's agility to support the business, for example — rather than business-related IT drivers such as enabling new business streams, improving time to market, etc., as mentioned earlier in this paper.

Looking at which top-line and bottom-line performance factors drive cloud adoption, access to data and information (i.e., productivity gains) and cost savings (IT and non-IT) are the top ranking drivers for 37% and 25% respectively. At the same time, only 16% and 19% of respondents respectively see sales/revenue growth and faster time to market as drivers for cloud adoption.

This seems to indicate that companies still need either to understand fully what cloud can deliver or buy into the vision of how cloud can help change business models and bring innovation to the company overall — and not just how it can help improve internal processes. This is partly a question of maturity of the cloud market in itself. Both vendors and customers are still trying to figure out all that cloud can help achieve. So, although cloud may already bring great benefits to the IT environment, IDC expects that we will see much stronger ROI from cloud investments in the future as it reaches deeper into the fabric of the business. As stated by a U.S. healthcare company:

"Within drug discovery we are effectively using cloud to reduce the time to market and to reduce the spending on research that will have an unsuccessful conclusion."

A further proof point from a French financial services firm:

"I think the main example is that we have improved business analytics in some areas of the business and we are able to more frequently mine data for intelligence both in market analysis and risk analysis. We can use cloud resources to achieve this and we don't have to interrupt business or wait until resources are available. It is always available. This leads to more dynamic business decision making. We are better informed."

Security, Data Location, and Legal Jurisdiction Are Top of Mind — But Do Not Inhibit Adoption

As we have often seen before in IDC research, security and data location/legal jurisdiction top the list of concerns that CIOs have about cloud, and this study is no exception. At the same time, however, these concerns are not stopping adoption. Enterprises are well aware that cloud is and will become a key element in how IT is delivered. Security is always a major consideration and will become even more so as the world is increasingly open and networked.

Data location and legal jurisdiction, however, are issues that need to be addressed by governments, on the one hand safeguarding enterprises' data and information, but on the other facilitating insight and access where necessary for criminal or security reasons. In this respect, much attention is given to the US Patriot Act. In reality, very similar legislation exists in most other countries as well. In the end, this is not stopping adoption but may go some way toward explaining the preference for private cloud, particularly around core applications and data.

Interestingly, when discussing cloud adoption and potential barriers with the cloud decision makers during the in-depth interviews, we clearly saw that security, data location, and legal jurisdiction had not in fact turned out to be the main issues holding up cloud adoption. Instead, these companies often held up internal reluctance to adopt cloud — even within the IT department — as one of the most significant hurdles.

According to a U.K. utilities company:

"[We have] no major issues with public cloud either technically or from a regulation point of view. We have considerable inertia to change within the IT department as fewer internally managed IT resources means that we require fewer internal IT staff. But the cost benefits and the extent to which we can take advantage of the scalability means the benefits outweigh the reluctance of the IT department to wholeheartedly adopt cloud."

FUTURE OUTLOOK

Engaging Service Providers to Help on the Cloud Journey

According to the survey, about a third of respondents would use external service providers to help develop their cloud strategies and road maps and around a third would engage external service providers to help them implement cloud. On the face of it, this could look like a relatively small proportion considering that the technologies are new and the skills that enterprises may have internally that are trained in these technologies may be scarce. However, around a quarter of respondents also stated that they would consider engaging with an external service provider just to gauge how they could help. This indicates some level of uncertainty that the implementation of cloud can be fully undertaken in-house — and perhaps especially considering the reluctance that the project may meet internally as witnessed in the statement above.

So, who do organizations choose to engage? Do they prefer a best-of-breed provider or one provider for everything? Organizations are pretty much divided down the middle on the best approach. For many that already have broad outsourcing engagements, cloud becomes an integral part of these engagements. For those that do not, the worry is that they may increase their risk exposure if they place everything to do with cloud with one provider — they therefore favor the best-of-breed option. Says a French financial services company:

"[One of our key challenges was] how to implement without placing too much with a single provider yet achieving good clustering of applications to allow us to reduce the cost of data transferring between systems, so we have a clustering idea, although this is not a formal plan."

However, this approach leads to more complex implementations and IDC suspects that this will lead enterprises to look to external service providers to manage this complexity — and the study supports this view.

Managing a Complex Cloud Ecosystem: A Key Role for External Service Providers?

As organizations increase their investments in cloud and get more experience in adopting different types of clouds for different purposes, the result will be more complex cloud environments. With the increased complexity, it becomes critical for organizations to keep a solid, holistic view of the services available as well as the resources that are required across the full cloud ecosystem, and to control the different vendors and parts of the cloud ecosystem in order to retain the flexibility to choose best-in-class cloud services.

The survey clearly shows that companies are well aware of this complexity and that they do indeed look to the expertise that service providers may bring to the table, as shown in Figure 3.

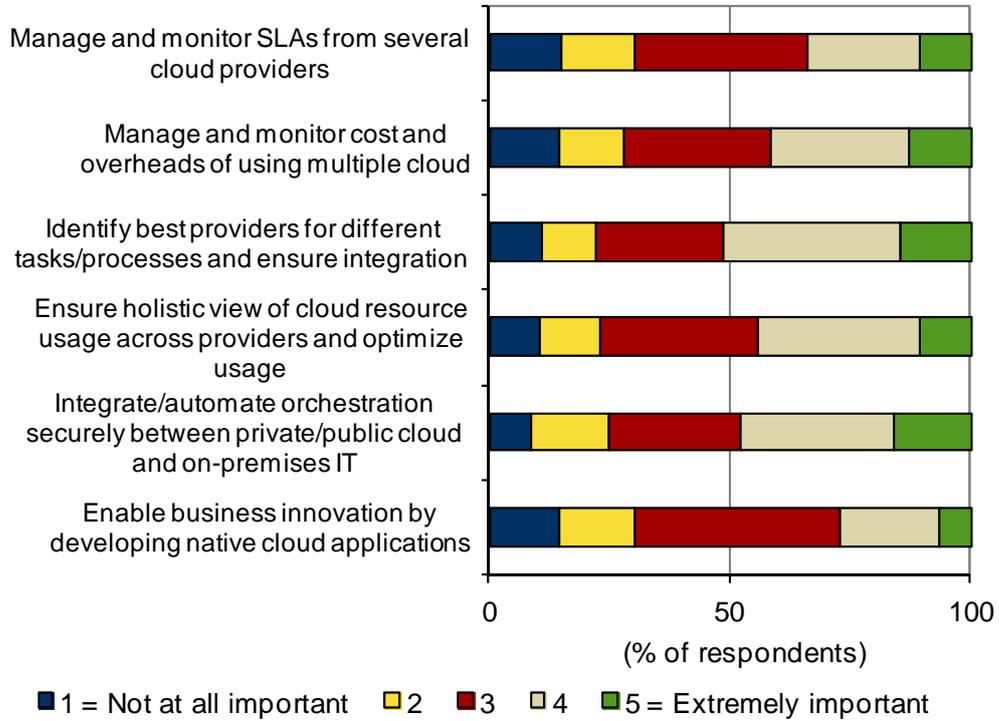
A key area of concern is integration: integration between different cloud providers as well as choosing the best cloud provider for the job (52% of respondents rating this extremely or very important) and integration and automation of the orchestration of applications and data securely between private cloud, public cloud, and on-premises IT environments (48% saying extremely or very important).

Another key area of concern seems to be how to ensure the benefits of cloud are still realized in a multivendor environment. One of these benefits is the ability to use cloud resources for optimum flexibility and in the most optimized manner. A failure to do so can lead to increases in the cost and overheads of using multiple clouds, which in turn lead to decreased benefits compared to expectations, combined with management and monitoring difficulties. Consequently, other important capabilities that external service providers can provide are solutions to show a holistic view of all cloud usage (44% of respondents rated this very or extremely important) and indeed to help manage and monitor the costs of multiple clouds (41% of respondents).

FIGURE 3

Expertise of Service Providers for Cloud

Q.: To what extent would you see it as important that an external service provider can assist you with the following?



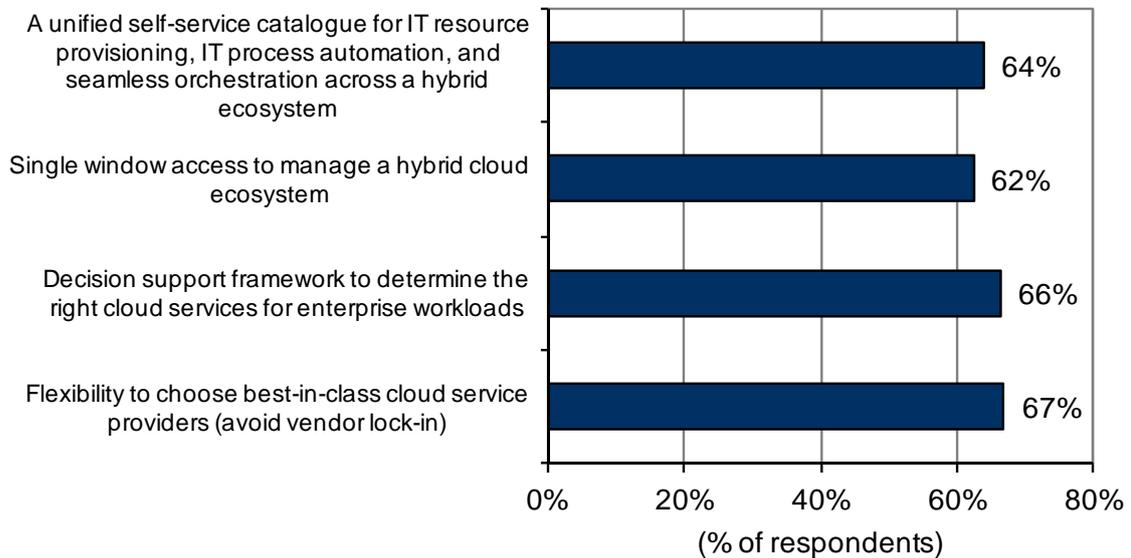
Source: IDC, Infosys Cloud Study, 2012

Delving further into the complexities of hybrid cloud environments, the study specifically asked the respondents about the importance of a service provider being able to assist in areas such as unified self-service catalogues, and hybrid cloud ecosystem management (see Figure 4).

FIGURE 4

Managing Complex Hybrid Cloud Environments

Q.: Could you tell me which of the following capabilities and expertise would be important to you from an external service provider? (Yes only)



Source: IDC, Infosys Cloud Study, 2012

These capabilities were deemed important by around two-thirds of respondents, indicating that this expertise does not currently reside within their IT departments — and that this may indeed be what is currently holding back their adoption of more complex cloud environments.

These results indicate that although, as shown earlier, a relatively low proportion of organizations said that they would engage an external service provider to help set the strategy and implement cloud, when it comes to more complex cloud environments enterprises are quite likely to turn to external service providers for assistance.

Consequently, if external service providers can help bring the complex build, manage, and govern capabilities to the market, this should help enterprises expand their cloud adoption — and thereby the realization of the associated business benefits of agility, productivity, speed to market, etc., which are sorely needed by many organizations in the current economic environment.

The complexities of managing the cloud environment is top of mind for many CIOs, as reflected by a U.S. manufacturing company:

"Our major challenge is going to be ensuring we can still audit all our cloud resources. We need to formalize the procurement of cloud services and limit the number and type of resources we are using. We need to ensure we maintain internal resources capable of carrying out administration within each cloud application. And we have to be disciplined about documentation."

CONCLUSION

As this study has shown, the majority of organizations are adopting cloud one way or another, even if they haven't yet formed a specific strategy or set a road map for it. Clearly, as cloud penetrates further into the IT environment and adoption becomes increasingly sophisticated in terms of choosing the approach (i.e. public or private, hosted or on-premises, etc.) for the different workloads as well as choosing between different service providers, so the complexity increases.

Our study showed that many organizations prefer to handle their current approach to cloud using internal resources only. However, it also showed that as the complexity increases, the likelihood is that there are skills and tools that will not be readily available in-house. No matter where you are on your cloud journey, IDC has the following considerations for you:

- ☒ **Consider developing the cloud strategy and road map as part of a holistic, overarching IT strategy that is closely aligned with key business imperatives.** We have talked to many organizations both as part of this study and in other situations that indicate that most have identified cost reductions and increased agility of the IT environment as key benefits of implementing cloud. However, it is equally clear from discussions with organizations that are further along their cloud road map, that integrating cloud within the business strategy is where real, deeper benefits truly come to play: faster time-to-market, creating new revenue streams, and leading to entire businesses being fully underpinned by cloud, or perhaps reaching new markets. However, building this intertwined strategy is not an easy undertaking — it demands strong communication and understanding between the business and IT, and is likely to be an iterative process to ensure the strategy stays relevant as you learn and adopt.
- ☒ **Push vendors to show examples of innovation and business cases to demonstrate what can be done.** This is where cloud vendors and service providers can be of real help. But remember for many this is also still new territory, so ensure that you ask any provider to give you proof points and business cases. The external service providers are in a great position to be able to cross-pollinate new approaches, success stories, and IP across their customer base — perhaps more so than you are yourself — but sometimes they are not forthcoming in bringing customer examples. Furthermore, they may not have many case studies to show, but you ought to get them to show you what they have or, even better, let you talk to customers that are further along in the adoption process.
- ☒ **Be prepared to tackle internal resistance to cloud, even within the IT department.** Several of the organizations that we have talked to as part of this study and others have been surprised about the resistance to cloud adoption that they have run into internally. To some extent, this can be compared to the resistance that also became evident when outsourcing became commonplace — and even more recently with offshoring. It is obviously natural that people are concerned about their jobs and what cloud may mean to them in the future and it is just something that needs to be tackled. However, it is important to be aware that it may just be a factor you have to deal with.
- ☒ **Ensure you understand the complexity that may come from cloud — but don't let it stop you.** Most organizations are still in a relatively explorative phase

of cloud adoption, such as public cloud only for collaboration and email, and private cloud implemented in some corner of the core IT environment. However, as adoption increases and companies take full advantage of the different cloud models for different parts of the IT and business environments, so the complexity increases. It will be harder to monitor and control fully the resource usage across this hybrid environment. The risk, obviously, is that resources will be sub-optimized, leading to a dramatic reduction in cost benefit brought by cloud compared to expectations. Another aspect of the complexity is how to ensure that the integration of data and processes is seamless and optimized. After all, a process is only as good as its weakest part. You may have the skills and tools in-house to manage a complex cloud environment. However, if you don't there are companies out there that can help, but, as before, make sure that you ask for business cases and proof points. This is one way of separating the experienced service providers from the novices.

Copyright Notice

External Publication of IDC Information and Data — Any IDC information that is to be used in advertising, press releases, or promotional materials requires prior written approval from the appropriate IDC Vice President or Country Manager. A draft of the proposed document should accompany any such request. IDC reserves the right to deny approval of external usage for any reason.

Copyright 2012 IDC. Reproduction without written permission is completely forbidden.