Cloud Computing. The Transformation of Traditional IT.

The cloud continues to boom.

No longer a trend, but much rather a boom: 61% of all companies worldwide already use cloud computing or are planning its use (Source: Ernst & Young). But what the actual design will look like still raises countless questions for those responsible for IT and business decision-makers.

Is my company ready for the cloud? What is the best strategic route to the cloud? Who will be my partner on my journey to the cloud? And what about the topic of IT security?

Cloud 7.0 enables an in-depth as well as understandable insight into this complex subject and provides up-to-date discussions with practice-oriented contributions and interviews.

We hope you find this information interesting and look forward to your feedback!

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T-Systems
The cloud continues to boom: 61 percent of all companies worldwide currently use cloud computing or are evaluating it or planning to start using it this year according to a study by consultancy firm Ernst & Young. What the specific design of a cloud strategy and the relationship with a potential service provider will look like is still unclear to many business decision makers: Is the provider really able to bill IT resources based on consumption only? How flexible is the dynamic model in reality? How secure is the data? What about complex applications which cannot be migrated to the cloud in a standardized way? And, above all, what experience in the form of major international project does the service provider already have?

MANY YEARS OF CLOUD EXPERIENCE

At first glance, the fact that there are so many questions is probably due to the cloud computing technology still being very young. Nevertheless, T-Systems has been lifting business applications (SAP) into the cloud since 2005, e.g., for Vorwerk and Heineken, and has gained extensive cloud experience. As a result, the ICT service provider has made an innovation jump each year. And since IT developments can never be better documented than with a release, this experience has been identified as Cloud generation 1.0 to 7.0.

Cloud 1.0: 2005/2006
First provider of a concrete cloud offering for business applications (SAP).
15 customers already use the dynamic platform from T-Systems.

Cloud 2.0: 2007
Pioneer in optimized networks for cloud applications with redundant paths and secure transmission via IP VPN tunnel.

Cloud 3.0: 2008
Start of certified cloud security “Made in Germany” based on fail-safe TwinCore data centers worldwide.

Cloud 4.0: 2009
One of the largest service providers of SAP virtualization. Named “SAP Global Support Partner” and “Run SAP Partner of the Year”.

Cloud 5.0: 2010
Pioneer in Apple-based mobile solutions in the cloud and a needs-based cloud offering with full flexibility.
Awarded the world’s first SAP cloud certificate.

Cloud 6.0: 2011
World’s largest transition (200,000 workplaces) to a dynamic collaboration platform (migration of Lotus Notes to MS Lync) and start of the standardized IaaS offering via online access.
Some 600 customers now use dynamic services from T-Systems.

Cloud 7.0: 2012
Complete consulting and support offering for the transition of complex applications and data to the cloud.
The only service provider with a consistently dynamic ICT portfolio from a single source.
Transparent costs for cloud services: T-Systems offers a total of 10 cloud solutions such as computing services, storage capacities and software from the cloud at fixed prices.

MIGRATING LEGACY SYSTEMS TO THE CLOUD

For analyst Axel Oppermann, experience and certified methodological expertise are key when migrating systems to the cloud.

Whether switching platforms to the private cloud or discontinuing outdated financial applications, many CIOs currently feel a need to migrate their legacy systems to the cloud. And yet, even with the enormous costs of maintaining legacy systems, some ICT decision-makers are still hesitant to migrate these systems to the cloud. According to a study by consultancy company KPMG, the principle obstacle when it comes to migrating to the cloud is that CIOs lack faith in the abilities of most cloud providers.

SUCCESSFUL MIGRATION POSSIBLE

According to the opinion of analyst Axel Oppermann from the Experton Group, this is a generalizing judgment: „It all boils down to two key criteria: experience and certified methodological expertise. When these two elements are in place, even legacy systems can be migrated successfully,“ said the expert. According to Oppermann, this kind of cloud computing is not a job for beginners, but for providers „with proven service experience who have already learned important lessons.“

HIGH-LEVEL SECURITY REQUIREMENTS

„Certification in data privacy, data security or hosting, for example, gives companies additional security in this regard,“ said Oppermann with reference to methodological expertise. In addition, it is decisive for large companies that the cloud provider has particular experience in operating complex cloud services with high-level security requirements and in application migration and data integration in the productive cloud, i.e. experience in actual implementation. The vast legacy systems of companies often consist of non-standardized applications and of solutions that have developed over a long period, and this makes the process anything but easy.

“IT’S TIME TO GET DOWN TO BUSINESS WITH THE CLOUD”

Daimler’s CIO, Dr. Michael Gorriz, talks to T-Systems Senior Vice President Automotive, Luz G. Mauch, about trusting new technologies, the different speeds at which enterprises are adopting private and public clouds, and how in-car Internet connectivity will be standard by the end of the decade.

Dr. Gorriz, this year’s CeBIT is entitled “Managing Trust” – how important is trust, and how important are the nuts and bolts of business when it comes to topics like cloud computing?

Managing Trust is a phrase that’s open to interpretation. Trust is the result of experience. So my personal experience with a partner who is managing my data plays a key role. On the other hand, it’s vital to critically evaluate, in technical terms, the security offered by any given cloud architecture.

Analysts seem to be paying less attention to cloud computing. Is this an indication that, after all the hype, the focus is now on implementing real-life systems, that it’s time to move from words to action?

Everything that needed to be said about the cloud has now been said. And that is the point when we professional managers say: it’s time to get down to business. The hype is fading, the hard work now begins. It’s the cycle we see again and again with topics of this kind. And it is important to remember that the public cloud, not just the private cloud, is going to play a key role for us in the future. There are still some legal issues to be resolved; providers and user organizations have yet to agree on the small print.

Are conventional SLAs enough to guarantee the stability you need? SLAs alone are no guarantee of stability. They are the first step, and just define the terms. On paper, SLAs invariably go too far from the provider’s point of view, and don’t go far enough from the user’s perspective. So, ultimately, they are always a compromise. But when it comes to cloud computing, the rules are a little different. Once you have a live system, you need to know what availability and response times you are actually getting. Because in the public cloud, downtime isn’t customer-specific; it applies equally to everyone. But in my mind, the availability offered by the public cloud is good enough for many purposes.

How do you collect hard evidence that an IT project is creating value? That’s far more difficult than the actual project implementation work itself. The benefits may come directly from improved process efficiencies, or from the overall outcome of a project – for example, when we create an entire new facility like the one we’re building right now in Hungary. In this instance, we don’t attempt to establish a business case solely from the IT department’s point of view. But it’s a different story when we are upgrading IT support for a business process. Then, when the project is completed, we compare the costs of operations and processes before and after. Our goal is to achieve tangible savings. In our organization, that means savings in 50 percent of all projects.

You’re planning to transform Daimler’s IT organization from a service provider into a competence center for process consulting. How do you reengineer your IT so that it is a genuine business driver rather than merely responding to demand?

The role of the IT organization includes integrating processes across the enterprise. If we’re addressing issues that affect more than just a small group of users, then our team is asked to find a solution. This is nothing new, and this aspect of our work is set to grow in importance. Our mission for 2012 is to concentrate on service-oriented architecture (SOA) technology and business domain modeling for user departments. We’re focusing on structuring our operations. We discuss the available options for making our company more responsive and leaner across the entire Daimler group. And in that respect, it really is the IT organization that initiates the discussion, and brings up issues about who does what and how we execute our business.

What progress have you made with domain modeling?

We’ve made great strides with individual departments – engineering, financial control, financial services, procurement, and human resources management. What we’ve not yet done is create a consistent overall domain model. But by the end of the year, we will have put the foundations in place, and we’ll be using them to examine in detail how to make further efficiency gains across the entire enterprise.

On the subject of efficiency – Daimler wants to clean up the application environment and shrink it by 40 percent by 2015: how will that affect your colleagues in IT?

Providing today’s IT services with 40 percent fewer systems is not pie in the sky; it’s a totally realistic goal. We are working on a number of large-scale projects that will enable the replacement of many smaller systems. In after-sales, for example, the entire parts distribution process is being migrated to a single platform. Ultimately, we’ll have one large system in place worldwide, and will have eliminated numerous small ones.

Internet resource: http://bit.ly/YreRIV
Will your users like the changes, too?
Certainly. The IT department can’t accomplish this on its own. But more and more often at Daimler, we are bringing together business functions to be managed from a single point. And this makes it much easier to consolidate our systems. Because all managers want the same processes for their area of responsibility.

You mentioned your new facility in Hungary – how will you approach your IT in much bigger markets, like China?
China accounts for our highest growth rates in sales, production, headcount and IT. We have a very lean, structured systems environment there, because it was only set up in the last six years. A single ordering system, a single dealer-management system, a single system for production, and no clutter or muddle. The examples of Hungary and China show clearly that we have the right tools in place to adequately support the most complex, fast-growing business systems. That applies to the applications and to services such as desktop services, data-center operations, and software rollouts.

Internet resource: http://bit.ly/YreRiV

CLOUD COMPUTING AT FIXED PRICES

Standardized applications and infrastructure from the cloud.

Standardized services from the managed private cloud appear to be a good choice for large companies. According to estimates by the Experton Group, offerings in this area already account for almost 50 percent of all cloud revenues in Germany. And it is precisely among standardized offerings, such as computing power, storage capacity, and applications, that fixed pricing plays an important role by enabling ICT owners to calculate their costs accurately right from the outset.

DIRECT ACCESS TO CLOUD RESOURCES

In addition, it allows cloud resources to be accessed as and when necessary if the services used need scaling – a regular occurrence for corporations. Gartner analysts say that these services can help companies cut IT costs by up to 30 percent if their provider can guarantee the same high level of efficiency on its platform.

PUBLIC CLOUD IDEAL – FOR CERTAIN AREAS

The public cloud offers companies the best of both worlds: the advantages of a cloud solution coupled with the security usually only associated with in-house IT. Particularly for large companies, though, it is clear that the public cloud has a limited place in their strategies. „There are still concerns regarding the security of the public cloud. Anyone intending to use public cloud solutions must take a very close look at the type of data involved and whether security precautions comply with prescribed standards. If there is any uncertainty, critical data is better off being moved to the private cloud,“ said Karsten Leclerque, principal consultant at PAC. Together with KPMG and BITKOM, PAC also investigated cloud use among German companies, coming to the following conclusion: „Companies are still extremely restrained in terms of public cloud computing. For almost 90 percent, public cloud computing is not on the agenda.“

Many companies have plans to migrate their applications and systems to the cloud. According to analysts at Experton, expenditure on B2B cloud processes will jump from 1.9 billion euros last year to three billion euros next year. In that vein, a large number of enterprises are working on cloud readiness and pilot projects. But they face a challenge: most applications and systems are not yet cloud-ready – for example in terms of IT security, as analysts Kuppinger Cole have established. Often, the same applies to legacy enterprise resource planning (ERP) environments. As a result, the route to the cloud is fraught with perils, as there are few standards and best practices to guide the way.

EXTERNAL EXPERTISE REQUIRED

“It’s crucial to analyze the key processes and services, and how they can be delivered reliably, effectively and affordably so the business runs smoothly. At this point, in many cases, external expertise needs to be brought on board,” advises Heiko Henkes, who heads up the Competence Center for Communications & Cloud Services at techconsult. The external partner needs to have in-depth knowledge of business and ICT planning, security management, and life cycle management, experience with highly complex systems and a sufficient grasp of strategy.

STEP BY STEP INTO THE CLOUD

In this context, strategy means starting out by evaluating which processes are actually suitable for migrating to the cloud, from a business perspective; and which applications and solutions are viable in terms of technology. These considerations encompass business strategies, service architectures and delivery models. Security and compliance issues also play a key role. This strategic groundwork gives senior management a basis for informed decision-making, and provides a detailed roadmap for the cloud transformation, including migration and integration planning.

LOOKING AT THE LONG TERM

But these strategic elements of IT service management are all too frequently neglected by CIOs, according to a techconsult study of major corporations and large mid-market players. “The strategies are too often short-term and directed at easily measurable operational targets. But cloud computing, and the route to effective cloud computing, is closely linked to many strategic issues within the business organization,” Heiko Henkes points out.

Internet resource: http://bit.ly/X82tEC
In the medium term, one in four companies will choose a security solution from the cloud and outsource components of IT security, reports the BITKOM industry association from a joint study with the University of Regensburg. The critical aspects of such services are described by Hagen Rickmann, Director for Service at T-Systems.

Mr. Rickmann, many companies already use applications and infrastructure from the cloud. Why should they purchase ICT security dynamically as well?

Because these services are perfect for the demands of major companies. Take the short response times to change requirements, for example – signatures, files, updates and code fixes – along with the reduced provision and usage costs and centralized management of event logs. The services are highly scalable, as well, and according to independent estimates, companies can save up to 55 percent of their overall operating costs for ICT security.

How can a company use the cloud to protect itself today?

We plan to offer „security-as-a-service“ cloud services this year. This will include web and e-mail security, as well as identity and access management. This is in response to the many inquiries we receive from CIOs. They no longer want strict all-inclusive packages, but instead custom security on demand – and we can now offer it.

There are still prejudices against security from the cloud, for example, the „vulnerability of services through Internet-based attackers."

How do you respond to these fears?

By mapping all the dimensions of ICT security. In our definition, security begins with data-center access via certifications, such as certifications pursuant to ISO 27001, through to protection against external cyber-attacks. Our portfolio covers all of this. We maintain our own Security Operation Center to provide protection against criminal hacking attacks, for example. In our virtual war room, our experts coordinate activities against even the most complex cyber-attacks. We also use so-called honeypots to obtain valuable information about attack vectors and patterns, and to mislead hackers. Of course, this also extends to mobile coverage. We have been able to protect against and analyze some three million cell phone attacks since late 2010.

What prerequisites do you think an ICT service provider has to meet in order to offer this variety of services?

They need proven experience with cloud computing, managed services and ICT security. We have been offering cloud-based applications since 2005. And we’ve learned a lot every year since then. The services also have to remain affordable for the customers. After all, companies can only make additional savings if they outsource their security to a service provider who can draw on economies of scale.

RESERVATIONS ABOUT THE CLOUD

“Tomorrow’s CIOs will be buyers not builders”, Mette Achorlu, IDC Research Director, European Services

Ms. Achorlu, cloud computing is still considered one of the less secure sourcing options. Why is this?
People look at the cloud from many angles – as a network, as a data center and as a data storage facility. There are security issues relating to all of these elements which, of course, creates concerns about the overall integrity of the cloud. In the past, when companies outsourced their IT, they still had the feeling that they were in control. Today, there are a lot of unknowns: you don’t know who has access to your data, who you are sharing server space with, how well protected from loss, theft and manipulation it is. Another concern is how enterprises can get out of the cloud again – without incurring high costs or their data diminishing in value.

What role can consulting services play in helping a company choose the right route to the cloud?
Consulting professionals have vast experience. They can deliver the skills and expertise required to make an in depth analysis of the clients’ existing applications and suggest which ones are suited for the cloud from a security, a technology and a business-case perspective. And they take a systematic approach and deploy specialist tools. To remain competitive, service providers need to deliver improved consulting offerings and honest advice. Companies can definitely benefit from the expertise of an external partner – particularly when it comes to drawing up cloud strategies and roadmaps. Professional service providers can also help organizations make the necessary changes to their business to ensure they get the most out of the cloud.

Mobility, collaboration, security-as-a-service: what would you expect to see delivered via the cloud in the near future? Would users like to see more complex applications?
I think we’ll see a lot of new developments here. We’re currently noticing an increase in the use of productivity tools from the cloud. The next big things are likely to be testing and business intelligence solutions. In the longer term, we expect to see people migrating their core ERP systems to the cloud. And there will be a trend towards more industry-specific implementation – because more and more companies are recognizing that plain vanilla doesn’t work for everyone. Big data analysis is something we’re also hearing a lot about right now – and something users would like to leverage from the cloud in the future.

What will happen when the cloud hype dies down? When will the cloud become a commodity?
People will stop talking about the cloud but it will not disappear from our lives. In fact, it will grow in significance as a delivery model and become an accepted, integral part of modern IT. I think we can expect the hype to last throughout 2012. But I predict that by the end of 2013, we’ll be hearing the word ‘cloud’ a lot less.

How will the role of the CIO change in the future?
Traditionally, CIOs built IT. But tomorrow’s CIOs will be buyers not builders – procuring IT solutions as services rather than creating them. They will be enablers and much more business-focused. Their role will be to procure, integrate, manage and outsource in a way that supports business growth.

Internet resource: http://bit.ly/12q2opQ
According to Forrester analyst Holger Kisker, robust governance is what matters when migrating big data to the cloud.

Most major corporations have robust, clearly defined governance policies for managing information within their organization – across the entire lifecycle, from initial capture, to usage, to archiving. And that is precisely what is needed when migrating big data to the cloud, states Forrester analyst Holger Kisker. Big data, he believes, entails a number of issues that require the development of new strategies. As he puts it: “On the whole, the technologies deployed are not new, even if the precise combination may be different. But the data used for analysis is new.” The imperatives that apply to all information management projects apply here, too. Big data is not just about products. It is also about people and processes. And Kisker has identified four key elements of good information governance in the cloud: data quality, data security, data standardization and the data lifecycle. “In the context of big data, these elements need to be revisited and reconsidered,” states Kisker.

“THERE ARE NO HARD AND FAST LIMITS ON BIG DATA IN THE CLOUD”

Once a robust governance structure has been implemented, there is nothing to stop a business from entrusting its data to the cloud. Quite the opposite: “The more interfaces a cloud solution has with other on-premises or cloud solutions, the greater the implementation effort and the greater the security vulnerabilities. Which is a strong argument in favor rather than against end-to-end processes in the cloud,” suggests the Forrester analyst. “I do not believe that any area will, in the long term, remain exclusively on-premises. There are no hard and fast limits on how big data can be deployed in the cloud.” But despite the changing frame of reference, businesses need expert advice and assistance when it comes to implementing their cloud strategy. After all, migrating entire business processes and big data to the cloud is a major undertaking. The answer is a magic combination of true partnership, IT architecture flexibility, cost savings, and process acceleration.
