



## Generation Cloud:

The Market for MSPs and System Integrators in Transition

---

A strategy paper created on behalf of IONOS Cloud GmbH

---

by Rene Buest, Senior Analyst & Cloud Practice Lead

---

## Executive Summary

---

- The market for system integrators and managed services providers is undergoing a substantial change. Only those who start their cloud transformation as early as possible will be able to survive on the market in the long run.
- The reason for this development is the changing purchase behavior of IT decision-makers. They are looking for more flexibility when it comes to the use of IT resources.
- So system integrators and managed service providers are faced with a fundamental change of their core business and need to upgrade the skill set of their employees as quickly as possible to the cloud-ready status.
- In this context public cloud infrastructures offer ideal conditions with regard to the price-performance ratio for running customer systems and applications in a managed services model. This way a faster response to changing customer requirements and to varying market situations is possible.
- System integrators and managed services providers can benefit from the high availability, the scalability and a high security standard of public cloud infrastructures. As a consequence they can free themselves from their capital-intensive business (shift from CAPEX model to the OPEX model) and thus design their pricing and marketing models more flexibly.

## Table of Contents

---

|   |           |
|---|-----------|
| <b>1. System Integration and Managed Services in the Age of the Cloud</b> | <b>4</b>  |
| <b>2. Vertical Unlimited: IaaS for a New Generation</b>                   | <b>7</b>  |
| <b>3. Opportunities and Potentials in the Cloud</b>                       | <b>10</b> |
| <b>4. Generation Cloud: Roadmap for System Integrators and MSPs</b>       | <b>12</b> |
| <b>5. Outlook</b>   | <b>13</b> |
| <b>About 1&amp;1 IONOS</b>  | <b>14</b> |
| <b>Author</b>   | <b>15</b> |
| <b>About Crisp Research AG</b>  | <b>16</b> |

# 1. System Integration and Managed Services in the Age of the Cloud

---

The market for system integrators and managed services providers (MSPs) has a long tradition. Decision-makers in medium-sized enterprises traditionally like cooperating with IT providers and place trust in their qualified advice and support to make sure that their IT infrastructures and applications run smoothly. With the continuous prevalence of robust use cases business executives and IT decision-makers are showing a growing interest in the public cloud. As a result conventional IT providers find themselves under growing pressure. They are challenged to show their existing and new customers the benefits of the cloud.

## The Market for System Integrators and MSPs in Transition

The cloud market is growing year by year. CIOs are changing purchase behavior and focusing on cloud services, integration and consulting as well as cloud technology. In theory, this development could mean a bright future for IT providers. But there is a catch, which is no less than one of the most remarkable characteristics of the public cloud i.e. self-service. Basically, this means that IT decision-makers and IT architects no longer depend on a system integrator or MSP. However in reality, it is obvious that due to the growing complexities and internal skill shortages, many companies are indeed unable to utilize these offerings without having to involve external partners.

This is why system integrators and MSPs need to handle a situation, which is both an opportunity and a challenge, since transforming into a “Trusted Cloud Enabler“ necessitates a change of the original business model and even more a massive expansion of personnel/employee or staff skill sets.

## New Requirements and Workloads

CEOs and IT decision-makers who transition to the cloud quickly get a good idea of the opportunities it offers for new business models or the operation of the company’s own IT infrastructure.

Consider these two different strategic approaches:

### → Top-Down-Approach

Opportunities of the cloud are analyzed and the results are used to distill a concrete use case.

---

### → Bottom-Up-Approach

Analysis of how the cloud can support the optimal implementation of an existing concrete use case.

---

The top-down approach typically generates new business models and disruptive ideas. Development happens from scratch within the cloud and is usually limited to innovators. The bottom-up approach aims to transfer an existing system or application into the cloud or to re-develop them for cloud deployment. The primary goal here is to optimize an already existing IT resource.

However, there is one thing that both approaches have in common. They focus on:

- Increasing flexibility.
- Improving scalability.
- Increasing availability.
- Speeding up Time-to-Market.
- Optimizing cost structures.

Experience with handling workloads and infrastructure in the cloud has shown that the biggest challenges are mostly ensuring flexibility, scalability and availability. The main reason is the lack of the skill set which is required to utilize the cloud. In the past 10 years the knowledge needed for IT infrastructures of the next generation has changed considerably.

Hence the self-service model of the public cloud is both a blessing and a curse. On one hand the user is able to implement their requirements and ideas on their own when needed. On the other hand IT decision-makers don't have a sufficient number of employees with the required cloud skills at their disposal to carry out their cloud projects.

So system integrators and MSPs benefit from the current situation, but under one condition – they need to transform themselves and their employees fast enough for the cloud.

### Transformation in Focus

The vast majority of system integrators and MSPs are still in the pre-cloud phase. Some have started the transformation or are in the transformation process. A few of the so-called "Cloud-Natives", i.e. IT service providers who came into existence exclusively because of the cloud, have recognized the potential of the cloud early enough due to their entrepreneurial vision and have been able to successfully transform and relocate their customers into the cloud. However renowned system integrators and MSPs are often subject to profound changes within the cloud transformation process. These include:

- In their core business of advisory services, competence and integration expertise are growing. At the same time building developer skills for the cloud is mandatory and mission-critical.
- The transfer of existing systems and applications to cloud infrastructures becomes priority. In this context customer retention by operational support is gaining importance.
- Cloud infrastructures for the operation of existing or new systems and applications built or platform vendors must be reviewed + selected. With this it becomes necessary to take hybrid and multi-cloud scenarios into consideration.
- Purchases of hardware and software are decreasing. Instead services and infrastructure offerings of cloud service providers are used. This results not only in a change of the pricing, sales and revenue

but also impacts the depth of the value chain and profit margins.

- Development and operation of services are moving ever further into the spotlight. Therefore, the orchestration of cloud infrastructure on behalf of customers is steadily increasing.

System integrators as well as MSPs need to realize that the transformation process in the age of the cloud poses a serious threat to their future business success. In addition to the change in the pricing and sales models the biggest challenge of this drastic transformation is to develop the necessary understanding of how cloud infrastructures and applications are designed, developed and operated. Therefore an investment into IT skill sets should be flagged as a requirement.

## 2. Vertical Unlimited: IaaS for a New Generation

---

The cloud is the epitome of the biggest change the IT industry has seen in decades. As well as influencing the present IT business models, cloud service providers have enormous influence on a technical level - especially in the field of infrastructures, where these changes are leaving their mark.

### Conventional IT versus Cloud: Facts and Figures

Cloud computing is decisively changing the way IT resources can be acquired and utilized. Software is no longer installed locally but used and accessed via a web browser. The development and lifecycle management of an application takes place on platforms – only the program code is mainly written by means of a local system. Infrastructure components like server, storage and the network are virtualized and can be controlled by APIs and services; their behavior can be programmed. These new infrastructure concepts directly affect IT operations and create opportunities for a new generation of applications processes and innovative business models.

These significant changes in the way infrastructure is run leads to differences in the operational characteristics between a conventional IT infrastructure and a cloud infrastructure.

So for IT decision-makers, system integrators, and MSPs the switch to a new cloud provider at an infrastructural level offers clear benefits. However, in order to map the DNA of a cloud infrastructure, new concepts and technologies are required. One possible approach is the software-defined data center. On the one hand it helps simplifying the design and the operation of the cloud provider's infrastructure. On the other hand providing infrastructure services to the user is easier.

### Software-defined Data Center: Architecture and Benefits

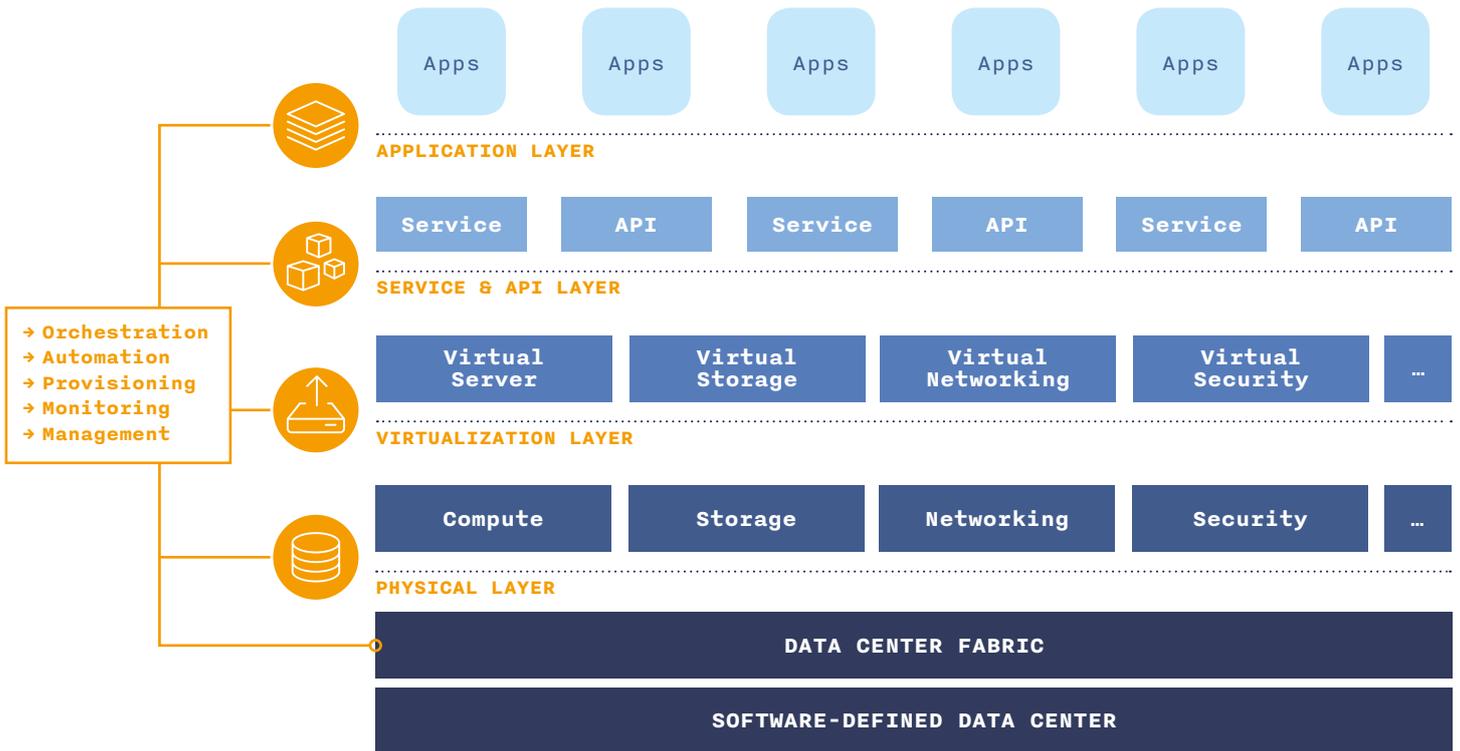
A software-defined data center (SDDC) is an infrastructure design in which all components of the infrastructure are completely virtualized and offered as a service. This includes server, storage, network and security elements. All control and monitoring units for provisioning, configuration and operation are completely migrated from hardware to a higher abstraction layer and mapped by software.

The SDDC represents the infrastructural basis part of the cloud computing provider. At the same time, it forms the foundation upon which customers in the cloud environment create and run their own virtual infrastructures. From the user's point of view, the SDDC is completely transparent. The customer comes in contact only with the service and API layer that is used to address and configure the virtual resources. With additional tools and administration interfaces the resources can be monitored and managed.

### Live Vertical Scaling aka IaaS 2.0

Scalability is one of the key advantages of a cloud infrastructure. Thanks to this feature, the performance of the system can be increased by adding additional resources to enable linear growth according to the requirements. With live vertical scaling it is possible to handle sudden peak loads which otherwise would cause the system to break down. Basically there are two principles - the scale-up principle and the scale-out principle.

Structure of a Software-defined Data Center (SDDC)



SOURCE: Crisp Research AG, 2015

→ **Scale-Out**

Horizontal scaling (scale-Out) increases the capacity of the system by adding further complete servers to the system. Therefore a server cluster is created that is constantly enlarged by the number of required servers.

→ **Scale-Up**

By means of vertical scaling (scale-Up) the capacity of the system is increased through adding further granular resources to a computer system. These resources are storage, CPUs or RAM. To update a system generally more powerful components are used.

Scale-out infrastructures are characterized by high technical complexity. For this kind of scalability, an existing application needs to be completely re-engineered. One reason is the fact that a non-distributed application behaves differently than expected in a scaled-out infrastructure. In this example, the application must be capable of scaling “horizontally” across multiple systems. In addition, it must autonomously make sure that further servers are started up when needed. Also, the development in the cloud environment of the provider is closely tied to the infrastructure, so provider-specific skills, cloud knowledge and programming abilities are often required.

An extension of the scale-up principle is Live Vertical Scaling (currently a unique feature of the Enterprise Cloud by 1&1 IONOS). In this case individual virtual servers can be expanded vertically by adding additional resources – e.g. the number of CPU cores or RAM – while/running the multiple servers. Without adjusting the running application, the performance of a virtual server can be increased this way.

In particular, this usage in combination with LAMP-Stack (Linux, Apache, MySQL, PHP) turned out to work well, since a MySQL database not only recognizes the new resources without further modifications or the restart of the system, but also is also able to utilize the added performance directly. In order to enable this, 1&1 IONOS has implemented modifications on the operating system level and on the hypervisor level, which will remain transparent to the user. All the user has to do is to employ a reference operating system image at their disposal that includes the Live Vertical Scaling functionality.

Live Vertical Scaling offers direct benefits to all those who quickly want to experience the advantages of cloud infrastructures without the need to familiarize themselves with complex cloud knowledge in advance.

## 3. Opportunities and Potentials in the Cloud

---

**Public cloud infrastructures offer enormous opportunities for different kinds of users.** If a customer manages to select the right cloud infrastructure provider for their specific requirements – e.g. according to state-of-the-art knowledge of the cloud – there is a good chance that established IT management tools can be configured effortlessly and that customers with their workloads can be transferred into the cloud.

Over the past years the application of three central selection criteria has proven to be successful.

### **Flexibility: Granularity pays twice**

A critical assessment of current public IaaS offerings reveals that all providers have different virtual server configurations and pricing models. This results in little transparency and comparability for users. On top of that most providers have an inflexible configuration (CPU, RAM, hard disk) of their virtual machines. A shift to the next level machine results in multiple costs although this complete level of performance is not needed at all. One essential difference in the pricing model is the billing increments. Depending on the provider this varies from costs per hour to costs per minute.

If a user has access to a flexible offering that includes the ability to vary the infrastructure configuration to need actual requirements needed as well as a very granular invoicing model they will pay less for the intended purpose of the cloud infrastructure.

### **Simplicity: Concentration on the Essentials in Focus**

The deployment of public cloud infrastructures usually requires programming skills, which are used for the operation of the APIs and services, to build and run a company's own virtual infrastructure. Here the scale-out infrastructure creates a high level of complexity, demanding new skills with regard to the operation of distributed systems. System integrators and administrators in general do not have extensive developer skills so consequently they are unaware of how to use the APIs of current IaaS providers. Building the required knowledge base is time-consuming and has a negative impact on the time-to-market.

A new generation of IaaS providers has identified this challenge and now offer a graphical web interface, in addition to APIs. This interface means complex cloud infrastructures can be deployed in just one mouse click, without needing prior knowledge of the underlying API or programming skills. This kind of visual cloud management interface and infrastructure designer tools helps users to concentrate on the essentials.

### **Performance: The Challenge in the Operation of the Cloud**

The performance of cloud infrastructure is one of the critical success factors that affect customer satisfaction and is also a decisive criterion in selecting a provider. Besides reliability and availability speed is a central prerequisite to be able to offer a holistic user experience to the end-user. Especially during the operation of modern e-commerce solutions performance has a significant impact on sales, which are generated via the ecommerce website. Cloud infrastructure plays a central role when it comes to fluidly presenting contents to smoothly handling the entire ordering process.

In the planning phase of IT infrastructure it is vital to find the right balance of resources to provide the applications with sufficient performance. At the same time the infrastructure should not be over provisioned to avoid a waste of capacity. The excessive deployment of infrastructure causes higher costs. If too few resources are configured there is a risk of performance limitations or failures. Therefore, the ideal solution for the correct sizing of the infrastructure is to manage the capacity and the performance.

Performance differs depending on the provider. The reasons for this are the technology employed and the configuration of the cloud infrastructures. Over the last few years it has become clear that fast internal network communication - for example on the basis of Infini-Band technology - between individual services results in an enormous increase of performance. Furthermore, the assignment of dedicated resources (CPU cores and RAM) to individual customer systems makes sure that virtual servers don't get the chance to interfere with each other, therefore causing performance limitations or variability.

# 4. Generation Cloud: Roadmap for System Integrators and MSPs

The path towards the cloud brings along some challenges. The following checklist is a guideline for system integrators and managed service providers to help them with their cloud transformation.

## System Integrator & Managed Services Provider Cloud Transformation Checklist

### 1. Cloud Assessment

- Application Portfolio Assessment
- Infrastructure Assessment
- IT Resource Purchasing Assessment
- Service Portfolio Assessment
- Revenue Assessment
- IT Skills Assessment
- Cloud Capacity Planning
- Service Quality Assessment
- Customer Cloud Assessment

### 2. Cloud Portfolio Development

- Cloud Service(s) Modeling
- Cloud Infrastructure Design
- Cloud Architecture Design
- Customer Workload Identification
- TCO/Revenue Modeling
- Price Modeling
- SLA/QoS Design
- Blueprint Development
- Skills Development Planning

### 3. Cloud Sourcing: Vendor Selection

- Cloud Provider Assessment
- Cloud Provider Evaluation
- Cloud Skills/Complexity Matching
- Cloud Pricing Benchmark
- Multi Cloud Provider Sourcing

### 4. Cloud Transformation

- Project Management
- Change Management
- Cloud Staff Trainings
- Cloud Staff Recruiting
- Customer Cloud Transformation
- Customer Use Case Evaluation
- Customer Cloud Enabling
- Customer Workload Cloud Migration
- Managed Cloud Services Roll-out

## 5. Outlook

---

**The market for system integrators and managed service providers is moving towards significant change and the purchasing behavior of IT decision-makers is shifting largely towards the cloud.** This is due to the desire for more flexibility and agility in the use of IT resources and the shift in IT costs from a CAPEX model to an OPEX model. This applies not only to IT users, but also to system integrators and MSPs.

In the coming years this change in the market will have an enormous impact on system integrators and MSPs. Looking at the public cloud, a growing number of CEOs and IT decision-makers will discover added value for their companies, they can use in the short and medium term. In this context the lack of cloud skills in companies will prove advantageous for system integrators and MSPs, as they are the ones with the proper IT expertise which can be transferred to the cloud quickly. As “Trusted Cloud Enablers” they are among the closest and most strategic partners when it comes to the implementation of a sustainable cloud strategy and the operation of complex public cloud infrastructure and applications.

A prerequisite for being able to use these new models in an optimal way are cloud platforms that enable a Live Vertical Scaling and therefore ensure that the integrator or MSP can provide and operate existing applications in the cloud without the need for major adjustments. Especially for the migration of already existing applications the demand for Live Vertical Scaling in the cloud will grow in the future.

## About 1&1 IONOS

---

With more than eight million customer contracts, 1&1 IONOS is the leading European provider of cloud infrastructure, cloud services, and hosting services. From VPS and bare-metal servers all the way to high-end IaaS solutions: 1&1 IONOS offers SMEs and large companies all the products they need to set up their hybrid or multi-cloud environment and is the only IaaS cloud computing provider that has its own code stack in Germany. 1&1 IONOS operates one of the world's largest and highest-quality IT infrastructures with over 90,000 servers. In the Cloud Vendor Universe from Crisp Research, 1&1 IONOS has repeatedly been named one of the leading providers of cloud platforms.

The Enterprise Cloud by 1&1 IONOS is the “Cloud – Made in Germany” with a data protection-compliant IaaS platform developed in-house for companies, system vendors/integrators, and managed service providers. It is flexibly scalable and provides free 24/7 support by qualified system administrators. During operation, the capacity of all components can be adapted to current requirements through live vertical upscaling.

1&1 IONOS was established in 2018 after the merger of 1&1 Internet and Berlin-based IaaS provider ProfitBricks and is part of the listed United Internet AG.



Greifswalder Str. 207  
10405 Berlin, Germany  
TEL +49 30 57700-850

E-MAIL [enterprise-cloud@ionos.com](mailto:enterprise-cloud@ionos.com)

WEB <https://www.ionos.com/>

TWITTER [twitter.com/ionosCLOUD\\_IAAS](https://twitter.com/ionosCLOUD_IAAS)

## Author

---



**Rene Buest**

**Senior Analyst & Cloud Practice Lead**

[rene.buest@crisp-research.com](mailto:rene.buest@crisp-research.com)

**Rene Buest is Senior Analyst and Cloud Practice Lead at Crisp Research, covering cloud computing, IT infrastructure, open source and Internet of Things. Prior to that he was Principal Analyst at New Age Disruption and member of the worldwide Gigaom Research Analyst Network. Rene Buest is top cloud computing blogger in Germany and one of the worldwide top 50 bloggers in this area. In addition, he is one of the world's top cloud computing influencers and belongs to the top 100 cloud computing experts on Twitter and Google+. Since the mid-90s he is focused on the strategic use of information technology in businesses and the IT impact on our society as well as disruptive technologies.**

Rene Buest is the author of numerous professional cloud computing and technology articles. He regularly writes for well-known IT publications like Computerwoche, CIO Magazin, LANline as well as Silicon.de and is cited in German and international media – including New York Times, Forbes Magazin, Handelsblatt, Frankfurter Allgemeine Zeitung, Wirtschaftswoche, Computerwoche, CIO, Manager Magazin and Harvard Business Manager. Furthermore Rene Buest is speaker and participant of experts rounds. He is founder of CloudUser.de and writes about cloud computing, IT infrastructure, technologies, management and strategies. He holds a diploma in computer engineering from the Hochschule Bremen (Dipl.-Informatiker (FH)) as well as a M.Sc. in IT-Management and Information Systems from the FHDW Paderborn.

---

## About Crisp Research AG

---

**Crisp Research is a European IT research and consulting firm.** With its team of experienced analysts, consultants and software developers, Crisp Research assesses current and upcoming technologies and market trends. Crisp Research supports companies in implementing the digital transformation of their IT and business processes.

The analysis and comments by Crisp Research are published and discussed on the base of a big variety of business-, IT-magazines and social media platforms. As “Contributing Editors” of the leading IT-publications (Computerwoche, CIO, Silicon et al.), committed members of the BITKOM-organization and well-asked Key-Note-Speaker our Analysts are taking an active part in the debates around new technologies, standards and market trends. They are counting to the most relevant influencers of the IT-industry.

Crisp Research was founded in 2013 by Steve Janata and Dr. Carlo Velten. Its research and advisory services are focused on “emerging technologies” like Cloud, Analytics or Digital Marketing and its strategically and operative implications for CIOs and Business Executives in companies.



Weissenburgstrasse 10  
D-34117 Kassel  
TEL +49 561 2207 – 4080  
FAX +49 561 2207 – 4081

E-MAIL [info@crisp-research.com](mailto:info@crisp-research.com)

WEB [crisp-research.com](http://crisp-research.com)  
[crisp-analytics.com](http://crisp-analytics.com)

TWITTER [@crisp\\_research](https://twitter.com/crisp_research)

# Copyright

---

**Written on behalf of :**

1&1 IONOS Cloud GmbH  
Greifswalder Str. 207  
10405 Berlin, Germany

E-MAIL [enterprise-cloud@ionos.com](mailto:enterprise-cloud@ionos.com)

WEB <https://www.ionos.com/>

---

All Rights to the content above belong to Crisp Research AG. The data and informatoin shall remain to the property of Crisp Research AG. This text and all extracts from it may only be copied with the prior written consent of Crisp Research AG.

**Layout, Design & Infographics:**

Hellwig & Bunttenbruch

E-MAIL [info@hellundbunt.de](mailto:info@hellundbunt.de)

WEB [hellundbunt.de](http://hellundbunt.de)

Weissenburgstrasse 10

D-34117 Kassel

**TEL** +49 561 2207 – 4080

**FAX** +49 561 2207 – 4081

**E-MAIL** [info@crisp-research.com](mailto:info@crisp-research.com)

**WEB** [crisp-research.com](http://crisp-research.com) [crisp-analytics.com](http://crisp-analytics.com)

**TWITTER** [@crisp\\_research](https://twitter.com/crisp_research)

