

# DIGITIZATION REQUIRES IT INFRASTRUCTURE FROM THE CLOUD

Dynamic Services for Infrastructure with vCloud

Digitization has long been an issue at the top of companies' agendas. It's regarded as a generator of competitive advantages and a source of new business ideas and models. Companies pressing ahead resolutely with their digital transformation leave their rivals trailing in their wake. They are more profitable, operate more efficiently and generate greater value.

The reason: They have positioned themselves to cope with increasingly dynamic markets and closely interwoven their IT with their corporate targets. The foundation for this is a dynamic IT infrastructure from the cloud, which enables companies to implement new business ideas at little risk. The conventional approach of purchasing physical resources is complemented or entirely replaced by cloud sourcing in the form of Infrastructure as a Service (IaaS).

## SIMPLE, SECURE, RELIABLE

Use of the world's leading virtualization standard from VMware means the resources can be integrated into your existing virtualization environment quickly and easily. The service is provided primarily from a twin-core security-certified data center in Germany. T-Systems is responsible for operation in compliance with German guidelines and legislation for data privacy and data security (German Federal Data Protection Act) Service and availability are vital for your business-critical productive environments. T-Systems provides 24/7 operation of DSI vCloud, including telephone and e-mail support. The platform's availability is up to 99.98 % p.a.

With its Dynamic Services for Infrastructure with vCloud (DSI vCloud), T-Systems provides you with an IaaS offering based on VMware virtualization technologies. Apart from the provision of virtual IT infrastructure resources, the offering comprises backup functions, management of the provided operating systems and disaster recovery capability, thus meeting even increased requirements for availability and business continuity.

## COMPUTING POWER AT THE TOUCH OF A BUTTON

With DSI vCloud, you use a scalable operating environment in the form of a virtual data center you can integrate with ease into your existing VMware virtualization environment. The resources are controlled on a self-service basis from a self-service portal, the Cloud manager, which can be accessed via the Internet (hybrid model). However, you can also use DSI vCloud as a virtual private cloud variant via secure network connections of the self-service portal (private model). You can administer and manage the virtual machines on your own at the touch of a button on the self-service portal. To make sure the resources you use are tailored precisely to suit your needs, virtual data centers of different sizes and with different usage models with predefined service scopes are available – complete with extra options.



## SERVICE SCOPE AND FUNCTIONALITIES

With DSI vCloud, T-Systems offers virtual data centers of different sizes with different service scopes, from which you can choose the right usage model for you. The service scopes comprise performance unit (PU), vRAM (GB) and storage (GB). You can optionally book network connections, additional storage of different classes / types, and public IP addresses for hosting web servers. The usage model defines the resource allocation. You can choose from three usage models for DSI vCloud, each based on different resource shares and billing models:

### BASIC vDC – RESOURCES ON DEMAND

The “Basic vDC” usage model provides you with capacities you can freely choose at any time, which are billed per use. A Basic vDC is therefore ideal for operating test and development environments or if you don’t want to commit yourself to capacities and prefer to use the DSI vCloud temporarily. Once set up, the DSI vCloud is available to you whenever you need it. Apart from a one-time connection fee, there are no ongoing basic charges for DSI vCloud. There is no minimum usage period.

### COMMITTED vDC – FIXED AND FLEXIBLE SHARES

Packages of different computing capacities (PU, RAM) are available for the “Committed vDC” usage model for use of DSI vCloud according to needs. The resource shares are split into a fixed and variable part and billed accordingly. This combination enables DSI vCloud to be used to suit the requirements for operating productive environments, without providing unnecessary (over)capacities, yet still ensuring that peak loads can be handled when required. The minimum usage period for Committed vDC is 3 months.

### DEDICATED vDC – FIRMLY RESERVED RESOURCES

The usage model “Dedicated vDC” usage model is suitable in particular if the company’s own server licenses are to be used. Under “Dedicated vDC,” the firmly reserved resources are provided on dedicated physical servers. Accordingly, the resources are billed at a fixed price. “Dedicated vDC” must be used for a minimum period of 12 months.

BASIC vDC	COMMITTED vDC	DEDICATED vDC
<ul style="list-style-type: none"> <li>Free choice of capacities</li> <li>Usage based invoicing model</li> <li>Consumption measured in 5-minute increments</li> </ul>	<ul style="list-style-type: none"> <li>Fixed resources with flexible contingent</li> <li>Fixed priced and usage based invoicing model</li> <li>Predefined packages of different sizes</li> </ul>	<ul style="list-style-type: none"> <li>Dedicated resources, flat rate based</li> <li>Physically separate hardware resources</li> <li>Use of customer’s own Enterprise licenses possible</li> </ul>
<p>CPU / RAM</p> <p>100% FLEXIBLE</p>	<p>CPU      RAM</p> <p>50%   50%      25%   75%</p> <p>■ Fixed part   ■ Flexible contingent</p>	<p>CPU / RAM</p> <p>100% RESERVED</p>
<b>USAGE MODELS FOR DIFFERENT SCOPES</b>		

Source: T-Systems

## PRODUCT COMPONENTS AND SERVICES

Apart from the provision of virtual data centers, DSI vCloud comprises the following product components and services:

### SELF-SERVICE-PORTAL

A convenient self-service portal is available to create and manage virtual resources independently. Alternatively, all the functions can be called via an API interface.

### vCLOUD CONNECTOR

The vCloud Connector enables seamless integration of DSI vCloud into the existing VMware-based virtual environment.

### DATA STORAGE

Three different online storage levels are available for DSI vCloud: Storage entry, normal, and high (mirrored).

Online data storage can be accessed on a self-service basis via the portal and offers the option of creating snapshots of workloads or virtual machines. In "high" storage level, the data is mirrored synchronously at another data center site and can be made available by T-Systems as a part of a disaster recovery scenario.

All online storage levels are available as **backup integrated disk storage**. In addition to online data storage, snapshot-based backup is carried out on a secondary data storage system in a second data center. All storage classes are connected via a highly redundant 10 Gbit multiple network. Powerful storage technology from Telekom offers optimum support for the provisioning processes of the DSI vCloud and thus meets most of the requirements for production, test and development workloads.

### INTERNET CONNECTIONS: SECURE AND FLEXIBLE INTERNET ACCESS

T-Systems offers **Secure Internet Access**, an optional service that is particularly suitable if DSI vCloud is to be used for providing end user services over the Internet. Web shops, applications and services can thus be made available to end customers. Security precautions, such as firewalls and reverse proxy servers operated by T-Systems, ensure that unauthorized access is prevented.

Using **Flexible Internet Access** is a further way of providing services on the Internet (inbound) that are run on virtual machines or enabling applications to access external services on the Internet (outbound). Unlike Secure Internet Access, users are responsible themselves for protecting the ports and for setting up, maintaining and monitoring the firewalls.

### BACKUP AS A SERVICE

For your workloads (VMs and vApps) you can flexibly use backup and restore functionalities as basic components of DSI vCloud via the self-service portal.

In addition, T-Systems provides you with a separate **Backup as a Service portal** that you can use completely according to your needs. Backups or restores are carried out according to your individual specifications, in a rule-based and fully automated manner. You yourself are responsible for defining the cycles and retention periods.

### MANAGED OS

In addition to the operating systems managed by users themselves, operating systems administered by T-Systems can also be used. The self-service portal allows Managed OS templates to be selected and virtual machines based on these provided.

The Managed OS service provides DSI vCloud users with additional scope regarding IT infrastructure administration, allowing them to focus on application provisioning for the end user.

### TEMPLATE CATALOG FOR OPERATING SYSTEMS

In order to standardize the installation of new virtual machines, T-Systems optionally provides predefined operating system templates called vApps. Customized vApp catalogs can likewise also be set up and used via the self-service portal.

Apart from operating system templates, it's also possible to use catalogs for predefined workloads in the form of virtual machines or vApps – even complex application landscapes, including system and network configurations, can be stored and used.





## POSSIBLE USES

### IMPLEMENTING NEW BUSINESS MODELS, DEVELOPING NEW MARKETS:

DSI vCloud enables new business models to be launched and new markets to be developed quickly and at minimum risk and cost. You can provide your own services easily and securely over the Internet.

### CLOUD SOURCING INSTEAD OF OUTSOURCING:

Dedicated server landscapes hosted by IT service providers can be moved to the cloud. Use DSI vCloud from T-Systems when you want to migrate business-critical applications and productive environments, and make optional use of the company's extensive consulting expertise to ensure trouble-free operation.

## AND WHAT DOES IT COST?

The highest quality at competitive prices. With DSI vCloud, T-Systems delivers an IaaS offering that boasts the highest service quality at attractive prices.

The range of different usage models, with a choice of fixed and flexible resource shares, means you can select the desired capacities to suit your needs at predictable costs.

## FOUR GOOD REASONS FOR DSI vCLOUD



### 1. EXPERTISE AT THE HIGHEST LEVEL

Telekom, T-Systems and VMware – Network, IT and virtualization expertise from market leaders in their industry.



### 2. TECHNOLOGY WITH A GLOBAL STANDARD

Virtualization technologies from the world market leader VMware are used for DSI vCloud. The use of standard technology enables smooth and seamless enhancement of your own virtualization environment, as well as rapid expansion or migration of applications as required as part of a hybrid scenario.



### 3. FIRST-CLASS OPERATION AND SERVICE

An integral part of DSI vCloud is 24x7 operation, to meet requirements for mission-critical workloads. Benefit from the platform's high availability of up to 99.98 % p.a. If required, optionally leverage T-Systems' consulting, integration and service expertise.



### 4. INTEGRITY AND SECURITY

Certified processes, data protection and data security are vital for using cloud services, especially if you want to use DSI vCloud for productive environments.

### INFORMATION AND CONTACT DETAILS

Detailed information is available on the Internet at <http://cloud.t-systems.com/solutions/dsi-vcloud> or by e-mail from: [DSI@t-systems.com](mailto:DSI@t-systems.com)

### PUBLISHED BY

T-Systems International GmbH  
Hahnstr. 43d  
60528 Frankfurt am Main, Germany