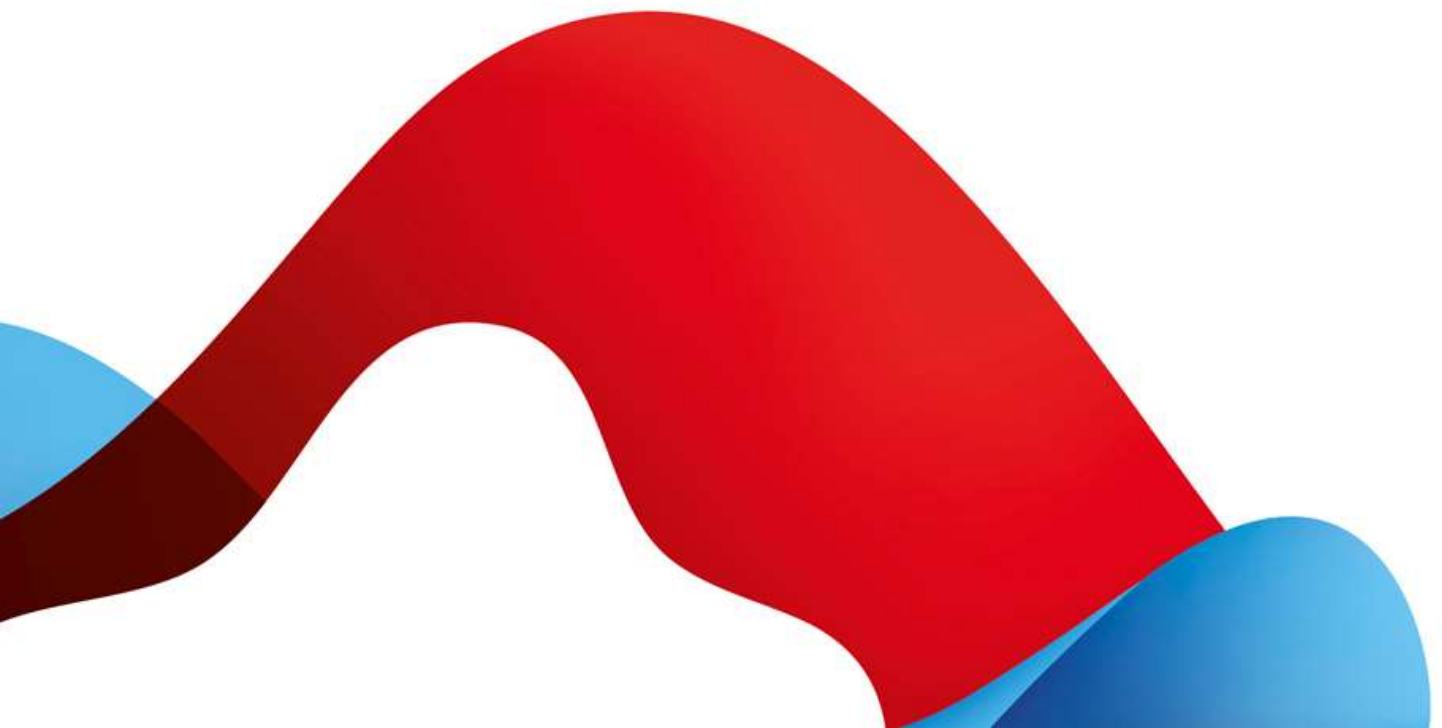




**swisscom**

# Service Description

Dynamic Computing Services (DCS)





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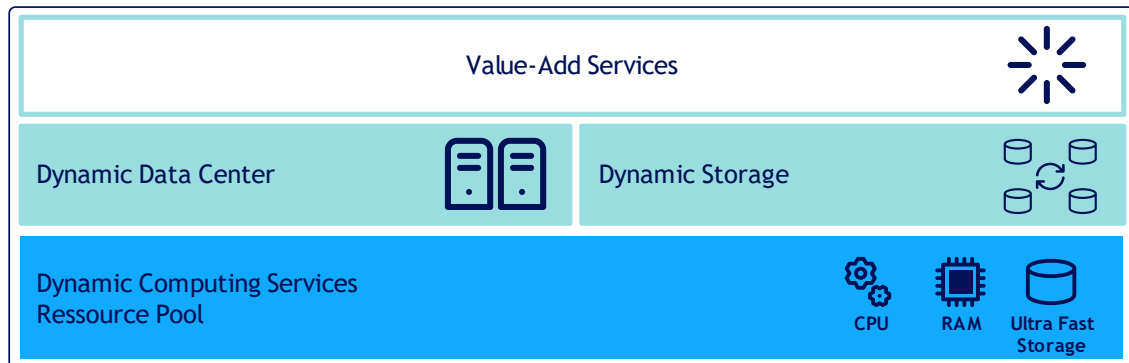
# 1 Service Overview

The Dynamic Computing Services (DCS) comprise services in the area of Infrastructure as a Service (IaaS). They provide the customer with the option to procure virtualised IT infrastructure resources such as processing power, memory capacity and networks from the Swisscom data centres in Switzerland in a flexible manner.

Using these resources, the customer can develop and operate its own IT solution in a flexible and independent fashion. The Dynamic Computing Services are highly flexible and have a scalable structure, meaning the resources can be reduced and expanded at any time. Swisscom provides the services on hardware units which are used by several customers. CPU power, RAM and memory capacity can be used flexibly.

Following the initial activation (onboarding), the customer uses the services via the network connection of its choice and manages the services via the Business Center and the Self-Service Portal.

The services includes the following elements:



The services are divided into the Dynamic Data Center and Dynamic Storage sub-products. The customer can configure these in a simple and flexible manner in the Self-Service Portal. With just a few clicks of the mouse, virtual servers, networks and memory capacity are made available for the relevant applications.

### Dynamic Data Center

- Suitable for the operation of demanding IT solutions.
- Autonomous creation and administration of the distributed IT architectures in the Self-Service Portal.
- Maximum flexibility thanks to the free configuration of virtual servers, networks, firewalls and other security components.
- Complex IT solutions can be realised thanks to comprehensive functions.

### Dynamic Storage

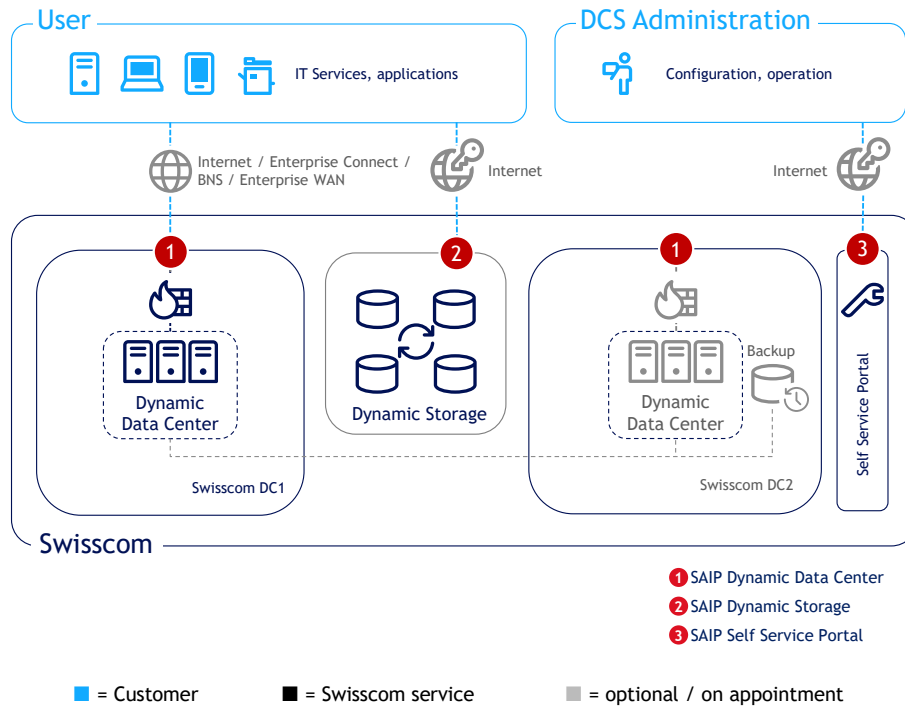
- External, object-oriented and georedundant memory capacity for the secure transferring of data.
- Memory capacity can be obtained in any volume within a matter of minutes.
- Data is always saved in Switzerland in a secure and highly available manner.
- Access via the Internet.
- Independent management of the storage areas by the customer in the Self-Service Portal.

## 2 Definitions

### 2.1 Service Access Interface Point (SAIP)

The Service Access Interface Point (SAIP) is the contractually agreed, geographical and/or logical point at which a service is provided to the customer and monitored.

The following diagram illustrates the Dynamic Computing Services and the service components used within them:



The SAIP is located at the transition from the Swisscom RZ to the customer-specific connection for the scope of services of the present DCS service description. Swisscom Internet, Enterprise WAN, Enterprise Connect and Business Network Services (BNS) are based on separate service descriptions.

### 2.2 Service-specific definitions

Term	Explanation
CIFS-ECS	CIFS-ECS is software that is available for Windows systems. After being installed, the software creates a virtual drive which is linked directly to the Dynamic Storage. CIFS-ECS includes encryption and stubbing functions.
Connection	Swisscom Internet, Enterprise WAN, Enterprise Connect or Business Network Services (BNS) can optionally be used as access to the Dynamic Data Center.
CPU	CPU ("Central Processor Unit") denotes the physical processing power that is available to the platform. The physical processing power is assigned to the virtual CPUs (vCPU for short).
RAM	Denotes the working memory available.
Resource pool	The resource pool is the virtual operating platform. All available CPU, RAM and storage resources are allocated on this platform.
Self-Service Portal	The Self-Service Portal allows for the technical and commercial administration of services and includes the detailed description of the necessary configuration parameters (e.g. IP addresses, licences, managed services, etc.)

Term	Explanation
vCPU	The vCPUs are assigned to the virtual servers (hereinafter also referred to as VM). The number of vCPUs per Dynamic Server corresponds to the defined service categories. In a Dynamic Data Center, the number of vCPUs is based on the individually created configuration of the VMs.
VM	VM stands for virtual machine and replicates the computing architecture of a computer that actually exists as hardware. The abstraction layer between the real computer (on which the virtual machine is run) and the virtual machine is referred to as the hypervisor.
VMware vCloud Availability	VM migration and disaster recovery functionality.
VMware vCloud Director	Technical portal for the administration of the ordered Dynamic Data Center.

### 3 Variants and Options

The Dynamic Computing Services are available in the following variants:

Service Variant	Dynamic Computing Services
Dynamic Data Center	●
Dynamic Storage	●

● = Option can be selected (included in the price)

The description of the variants and their parameters can be found in the Self-Service Portal where the relevant configuration is also performed.

#### 3.1 Definition of the service specifications

Specification	Definition
Dynamic Data Center	A Dynamic Data Center (DDC for short) is equivalent to a logically isolated operating platform in which virtual servers and networks can be set up and operated by the customer.
Dynamic Storage	Dynamic Storage is an object-based storage (S3) for archive or backup data that can be accessed via an Application Programming Interface (API).

The Dynamic Data Center variant is available in three different service classes:

- Basic service class: Suitable for development environments and non-critical applications.
- Standard service class: Suitable for business applications.
- Advanced service class: Suitable for business-critical applications.

The service class is selected upon creating one of these two variants. The Basic and Standard service classes are each operated at a single data centre location (DC1 or DC2). Should, contrary to expectations, an outage be experienced at the Swisscom data centres, the ordered variants are thus quickly put back into operation. For the Advanced service class, the variants are given priority in being put back into operation at an alternative data centre in the event of a disaster. Thanks to the storage mirroring, any loss of data is minor.

The Dynamic Storage variant is only available in the Advanced service class.

## 4 Service provision and responsibilities

### Non-recurring services

Activities (S = Swisscom/C = Customer)	S	C
<b>Provisioning of the service</b>		
1. Service objects (Dynamic Data Center and Dynamic Storage) are to be ordered via the DCS self-service portal. The customer must stipulate the service class required for each service object when placing an order.		✓
2. The services are provided on a hardware unit used by several customers (shared infrastructure). Despite the multiple usage of the hardware (CPU, RAM, storage) and software components (hypervisor software, management software), the processing power, storage capacity and network of the individual customers are logically separated from one another. Swisscom takes the appropriate technical measures (virtualisation of infrastructure) to ensure that a customer cannot see or access the data of other customers without receiving the relevant authorisation.	✓	
3. Administration and configuration: Swisscom provides the customer with access to the Business Center and the associated DCS self-service portal for the administration of services. In order to take account of the stringent security requirements, access is protected by a two-factor authentication process. The Self-Service Portal allows the customer to develop, configure and operate its own IT environments.	✓	
<b>Other non-recurring activities</b>		
1. The contract onboarding is carried out by Swisscom on the basis of the information provided by the customer. It includes the following individual services: <ul style="list-style-type: none"> <li>▪ Customer onboarding: Configuration and commissioning of the Business Center and the Self-Service Portal for the administration of the services.</li> <li>▪ Network onboarding (optional): Activation of customer-specific private network connections for the inclusion of the services in the customer network (Swisscom Enterprise WAN and BNS products).</li> </ul>	✓	
2. Dynamic Storage is an object-based storage that is accessed via an S3-compatible Application Programming Interface (API). The provision of sufficient storage space and processing power for the installation and operation of the CIFS-ECS application is the responsibility of the customer. The CIFS-ECS usage license is included in the Dynamic Storage fee. For further use, Swisscom refers customers to the current specifications of the manufacturer EMC.		✓
3. The configuration of "VMware vCloud Availability" within DCS as well as outside (external customer environment) is in the responsibility of the customer. We refer to the DCS documentation as well as to the official VMware documentation. The availability of the function is based on the Self Service Portal. Swisscom offers Professional Services for a fee if desired.		✓
<b>Termination of the service</b>		
1. The customer shall be responsible for the timely backing up of its data prior to the termination of the agreement. The customer must also release the resources in the Self-Service portal prior to this date. After releasing the resources, the customer data will no longer be available. Data deleted by customers cannot be retrieved by Swisscom.		✓

Recurring services

Activities (S = Swisscom/C = customer)	S	C
<b>Standard services</b>		
1. The platforms (IT infrastructure, network connection, virtualisation platform and Self-Service Portal) are monitored on an ongoing basis (24/7 monitoring). The data centres and DCS platforms operated and monitored by Swisscom have the following certification as standard: ISAE 3402, ISO 9001, ISO 14001, ISO/IEC 20000, ISO/IEC 27001.	✓	
2. In order to perform its operational tasks, Swisscom is authorised to provide external partners with restricted access to the platform areas essential for operations. This access can also be carried out from outside of Switzerland on a controlled basis. Swisscom takes various technical, organisational and contractual measures in order to prevent the risk of data processed and saved by the customer being accessed without authorisation.	✓	
3. Swisscom provides the customer with support services for the rectification of faults as well as in connection with the configuration and use of services. If the support service is not linked to a fault caused by Swisscom or if the customer requires special configuration support, the support service will be billed to the customer. If the fault does not affect the Dynamic Computing Services (e.g. server outage at customer), Swisscom can refer the customer to an IT partner for further support. The costs for this on-site support are borne by the customer. DCS Support is made available to the customer via the “online web form” from the Self-Service Portal. Alternatively, customers can obtain DCS Support by calling 0800 526 526. In the event that it is necessary for a fault to be rectified, the customer will, to the extent possible, actively participate in the analysis of the error. The customer is responsible for notifying users of faults.	✓	
4. The administration and configuration of the service is performed independently by the customer using the Business Center and the Self-Service Portal. The customer designates employees who are responsible for the administration and configuration and authorises these employees in the Business Center. The customer can also define functional accounts which allow for direct access to the technical cloud portal (VMware vCloud Director) via API. There is thus the option to directly administer (add, modify, delete) virtual systems that are operated in a DDC. Access is gained using the functional accounts by entering a user name and password.		✓
5. The customer is responsible for the accuracy and completeness of its data. The customer is also responsible for the safe use of access information and passwords. In particular, the customer ensures that confidential information such as user identifications, passwords and keys are not made accessible to unauthorised third parties.		✓
6. The customer is responsible for the design, implementation, commissioning, decommissioning and migration of customer solutions (including configurations, network topologies, virtual machines, operating systems, middleware, applications). The provision of customer hardware for the DSC platforms is not possible. Direct access to hardware interfaces is also not possible (e.g. serial ports, parallel ports, Firewire connection, USB). If required, the customer can also make use of Swisscom support services. Such professional services are offered and billed for by Swisscom separately.		✓
7. The customer is obligated to comply with applicable laws, rules and regulations relating to the management and administration of electronic data. The customer is responsible for the content of all data that it processes and saves using DCS. Illegal or objectionable contents as well as contents that lead to the distress or personal harassment of third parties are forbidden. Swisscom is authorised to immediately isolate virtual servers and/or storage areas of customers that it deems, at its own discretion, to breach this requirement. It is also permitted to urge legally and contractually compliant use by customers / terminate agreements without notice and compensation and/or, where applicable, demand compensation for damage.		✓

Activities (S = Swisscom/C = customer)	S	C
8. The encryption of data for data storage and in network traffic (between individual virtual systems in DCS as well as external systems) as well as key management is the responsibility of the customer. If the customer “loses” the key, the data is also irretrievably lost.		✓
9. The customer is responsible for the complete operation (incl. maintenance, monitoring, patching, support) of its customer solution from and including the operating system level. This includes the required middleware (e.g. VMware tools), databases and applications. In particular, the customer is also responsible for the implementation and operation of corresponding security measures such as anti-virus software and firewall configurations. The customer is responsible for backing up any application data (databases, etc.), as well as all matters relating to the network connection (e.g. domain names, DNS, SMTP).		✓
10. The customer provides Swisscom with a commercial and technical contact person. These contact persons maintain contact with Swisscom and represent the customer in accordance with the defined role (orders, configuration, operation and support). The customer informs Swisscom in advance of any extraordinary activities on its part such as load tests or hacking. Swisscom decides on a case-by-case basis whether the requested action can be performed.		✓
11. The services require a network connection on the customer side with a sufficiently high bandwidth for the transmission of data, access to the Business Center and - depending on the selected network connection - access to the services themselves. The required bandwidth depends on the customer solution.		✓
12. Swisscom has no influence on the quality, availability and safety of third-party services used by the customer (e.g. third-party networks, other cloud providers, software). Swisscom accepts no responsibility in this regard.		✓
13. The Customer is obliged to inform Swisscom about installation of big data applications (e.g. Hadoop) on DCS. Swisscom reserves the right to refuse such an installation without reason.		✓
14. Swisscom informs the customer about DCS events (maintenance tasks, failure reports, product updates, etc.) via e-mail. The customer ensures that the appropriate parties on his site receive this information. Messages are sent to all people who have been created by the customer in the Business Center for the affected DCS contract.		✓

### Licenses

Provision (S = Swisscom/C = Client)	S	C
<b>Provision of software licences</b>		
1. All Windows and Linux Redhat instances operated in DCS are automatically licensed by Swisscom and billed to the customer accordingly. The customer's own Windows and Linux Redhat licences cannot be taken into consideration. There are several operating system variants in each case.	✓	
2. The customer is completely responsible for ensuring the correct licensing of all software installed on the virtual servers (with the exception of the operating system licence for Windows or Linux Redhat).		✓
3. As part of the “DCS Licence Shop”, Swisscom offers licences which can be ordered and procured via the Self-Service Portal. Software and licenses that are rented through Swisscom can only be installed on a virtual server within the Swisscom data centre. Any local or other installations (e.g. end-user devices or servers at the customer's premises) are strictly forbidden. The customer is obligated to correctly report the license usage to Swisscom (within the portal) in accordance with the licensor's specific license terms. The customer agrees to indemnify Swisscom in full should it breach a licence. The applicable licence provisions of the respective software provider must be adhered to.		✓



## 5 Service Level and Service Level Reporting

### 5.1 Service Levels

The following service levels relate in principle to the agreed Support Time. Definitions of terms (Operation Time, Support Time, Availability, Security and Continuity) and the description of the measurement method and reports are based on the other contract elements (e.g. “SLA Definitions”).

The following service levels shall be provided for the variants (see section 3). If several service levels are available for each variant, the service level is selected in the service contract.

Service level & target values			Dynamic Computing Services			
			Dynamic Data Center			Dynamic Storage
			B <sup>1</sup>	S <sup>1</sup>	A <sup>1</sup>	Advanced
<b>Operation Time</b>						
Operation Time	Mo-Su	00:00-24:00			●	
Provider Maintenance Window	PMW-DC	PMW Swisscom Datacenter				
	PMW-S	Su 02:00-06:00 <sup>2</sup>			●	
		Tu-We 19:00-01:00 <sup>3</sup>				
<b>Support Time</b>						
Support Time	Mo-Fr	07:00-18:00	●	–	–	–
	Mo-Su	00:00-24:00	–	●	●	●
Fault Acceptance	Mo-Su	00:00-24:00			●	
<b>Availability</b>						
Service Availability (Self Service Portal)	99.5%		●	–	–	–
	99.9%		–	●	●	●
<b>Security</b>						
	Basic (ITSLB)				●	
<b>Continuity</b>						
ICT Service Continuity (ICTSC)	RTO Best Effort   RPO Best Effort		●	●	–	–
	RTO 4 h   RPO Near to 0		–	–	●	●

● = Standard (included in the price)   ○ = For an additional fee   – = Not available

### 5.2 Service level reporting

Service level reporting is not provided as standard.

<sup>1</sup> B=Basic, S=Standard, A=Advanced

<sup>2</sup> The use of a coordinated maintenance window will be announced to all DCS administrators via e-mail with at least seven days' notice.

<sup>3</sup> Maintenance work on the management components affects, for example, the Self-Service Portal, the vCloud Director and the Business Center.

## 6 Billing and quantity report

### 6.1 Billing

Services are billed to the customer retroactively for the previous month.

### 6.2 Billing models

In the Self Service Portal, the quantities used are visible at all times. The reporting of the quantities for the previous month is done together with the invoice.

### 6.3 Determination of resource consumption

The consumption of resources is determined hourly and charged according to the provisions for the respective resource. Conditions and investigation details per resource are listed on the official DCS price list.

## 7 Special provisions

### 7.1 Licenses

If licences are supplied by the Customer, the Customer is responsible for the correct licensing of the software used in accordance with the provisions of the applicable licence agreement and the terms and conditions of use of the respective manufacturer. The licensing situation must be reassessed in the event of any changes in the system landscape, a software switch, etc. Any measures required in respect of correct licensing must be implemented by the Customer. If licences are included as a part of the Swisscom service, Swisscom is responsible for the correct licensing. These regulations also apply to open source software.

### 7.2 Delimitations

Connectivity: The Dynamic Data Center and thus the customer's virtual machines can be connected to the outside world or to the customer's locations via Swisscom Internet, Enterprise WAN, Enterprise Connect or Business Network Services. These connections are not part of the DCS services. The service descriptions of the respective optionally selected Swisscom services apply.

### 7.3 Miscellaneous

- Liability: Swisscom shall accept no liability for:
  - Restrictions in availability due to the insufficient dimensioning of resources.
  - Outages for which the provider is not directly responsible, in particular external DNS routing problems, virtual attacks on the provider's network infrastructure (DoS/viruses) and outages experienced by parts of the Internet outside the control of the provider which lead to misinterpretations by the customer.
  - Outages for which the customer is at fault, in particular outages caused by incoming/outgoing hacker attacks (DoS) owing to erroneous or insufficient maintenance of the customer software.
  - Outages that occur because the systems have not been installed, operated and maintained in accordance with the guidelines of the manufacturer or provider (e.g. virus protection service).
- In the event of a violation of the service levels claimed by the customer, the customer must provide evidence of this violation, the burden of proof thus lies with the customer. Prerequisite for the check by Swisscom is a correct fault report by the customer in the DCS Portal.
- Swisscom is entitled to move virtual machines between ESX hosts located in the same VMware cluster.
- Swisscom uses a standard Host LifeCycle of several years within DCS, so there may be different host versions in use. Contractual basis are the consumed virtual resources, not the underlying hardware. The placement of the VMs is automated by DCS, a manual placement is excluded.
- Swisscom reserves the right to amend this service description at any time.