



SURFcumulus Service Description

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1 Introduction

According to SURF, the future of the IT infrastructure of research and educational institutions in the Netherlands is in the cloud. From administration to control: educational institutions can make flexible use of cloud services and combine them with their own reduced ICT infrastructures.

Transition to the cloud is not a simple step. Innovations follow each other at a rapid pace. The range of services is becoming increasingly complex and the differences between suppliers less clear. Furthermore, these services are constantly being developed further. Users also often have different wishes and needs and one cloud solution is often not a structural solution. That is why SURFcumulus wishes to tender cloud services together with our European partners. This will combine knowledge and expertise.

SURFcumulus began with 6 universities of applied sciences in 2016. Since then, that number has grown to 104 institutions in all sectors. In 2019, they will jointly spend 9 million euros on public providers via SURFcumulus. SURFcumulus thus responds to the demand for cloud services and relieves its institutions.

What will you find in this description of services?

This description of the service is a practical one, written for the ICT manager(s) of the institutions. SURFcumulus is a service which continues to develop and the description of the service may be revised twice a year.

A brief summary of SURFcumulus

SURFcumulus has been developed jointly with the institutions and is designed to help them with their digital transformation. SURFcumulus offers:

- Professional Services: support during the changeover process. We help you during the preparatory phase (design of cloud strategy and cloud architecture), the migration and management.
- A wide range of cloud services.
- A Cloud Management Platform with which you can manage your entire infrastructure (private and public cloud) in the same way.
- Unlimited use of SURFcumulus services without tendering.

IT departments and researchers can focus more on their primary processes as with SURFcumulus the infrastructure of cloud services will be:

- **Simpler** through European tendering. Legality is guaranteed, and institutions do not have to tender themselves. SURF will also maintain the contacts and contracts and you have insight into your affiliated providers.
- **More advantageous** because we have engaged in tender procedure on behalf of 36 countries and 10,000 institutions, as a result of which we have obtained substantial discounts.
- **Safer** because the service complies with compliance, security and privacy legislation.

SURF's role

SURF acts as an intermediary between suppliers and institutions, monitors quality and supports institutions in making a choice. With a permanent team with extensive cloud expertise, it helps institutions as a trusted adviser in a low-threshold way on the path to management and control.

2 Background to SURFcumulus: digital transformation

ICT infrastructure services managed in-house or outsourced?

Institutions have high standards as regards the safety, reliability, sustainability, scalability and flexibility of their IT facilities. They also want a high level of availability (24/7). This demands substantial investment. This raises the question for SURF members of whether, in the medium to long-term, the delivery of and continuous improvement in ICT infrastructure services should remain under their own management. And also the question of whether the infrastructure services available on the market already meet the conditions in the areas of privacy and security.

SURF supports and helps to speed up the digital transformation under way at educational institutions. As a result, they are able to continue to focus on the quality of education and research, while still being able to utilise state-of-the-art ICT facilities.

From management to control

The deployment and management of cloud services demands that an ICT organisation have a different expertise from that associated with the setting up and managing of its own infrastructure. The ICT is then no longer a management organisation but a controlling organisation. The most important role of such a management organisation is matching the demand of the customers and the supply from the market. With Professional Services, SURFcumulus provides institutions with an approachable and advantageous way of hiring in support for this role.

SURF assists as an intermediary

SURF can assist with the transition to the cloud and provides major benefits for its members. For example, the ordering, supply and maintenance processes are uniform and quite manageable. SURF also acts as a contact point for various cloud suppliers and provides insight in to their costs (see Business case tool). SURF has set up a controlling organisation for SURFcumulus. We relieve the participating institutions of the worries, which fits in well with the controlling organisations on the institutional side.

Training courses and workshops

The road from management to control is a long journey and the digital transition demands a great deal from an organisation. To help speed up and support this process, SURFnet offers training courses and workshops. These are aimed at both management and administrators. SURF uses its own expertise in this respect, as well as that of independent reputable market parties and that of the SURFcumulus suppliers.

Multi-cloud strategy

Institutions can elect to be supplier-independent. They can, for example, manage the resources of several suppliers simply by using the Cloud Management Platform (CMP). Creating and managing resources is virtually identical for all suppliers. In this way, institutions are able to develop a multi-cloud strategy in which they select the right supplier on the basis of the characteristics of the application(s). You have enough flexibility and freedom of choice when it comes to choosing the most suitable solution. In so doing, we consider the parameters that can be defined in the form of a sourcing strategy:

- Migration deadline
- Availability guarantees
- Wish/need for penalty clauses in case of availability not being respected
- Wishes in relation to technical and/or practical management
- Requirements for data classification and the choice of data centres within or outside the Netherlands
- Customer intimacy
- Expenses
- IPv6 support

3 Breakdown of SURFcumulus services

3.1 Procurement

Access to all lawfully contracted suppliers

The cloud suppliers enable offers through a public European Tender, such as GÉANT¹, published in 2016. SURFnet and SURFmarket took part in this tender for member institutions affiliated to them. Tenders for a Cloud Management Platform and Professional Services are being issued by SURFnet on behalf of SURF in 2019. Through this method of tendering, institutions are able to procure the SURFcumulus service without even having to publish a tender themselves². View the summary of the [available suppliers](#).

Overall contract management and the periodic audits of data classification

A team of experts from various countries manages the Framework contracts. SURF is affiliated to this and jointly maintains contacts with the suppliers of SURFcumulus services.

Institutions are responsible for handling their data correctly. For a certain type of data (for example, personal data), restrictions or extra requirements may apply that must be taken into account during the selection of a supplier or location. To provide you with insight into how the various suppliers handle this type of data, we conduct an analysis every year on the basis of the audit reports provided for those suppliers' European data centres. Should new analyses lead to different results, SURFnet will actively approach all institutions about this. You can find these analyses in the supplier's information pack, see 4.4.

Pay-As-You-Go or Reserved Instances

With SURFcumulus, you are free at any time to select other cloud suppliers and to purchase more or fewer services. You can also completely stop purchasing the services of one of the suppliers. The costs will also then stop. It is therefore a flexible 'Pay-As-You-Go' model. Naturally, you can opt for services that are always available for a year and gain extra discounts as a result (Reserved Instances). For the Professional Services, you are in charge of which agreements apply and for what period.

3.2 Support

Service delivery management

The service delivery managers are responsible for coordinating between customers, SURF and SURFcumulus suppliers. They guide institutions on the path from management to control and in the choices that need to be made and in any exit scenarios. Providing information and preparing and discussing regular reports and disseminating information form part of their range of tasks. You can also go to them directly with questions about SURFcumulus services which you do not yet use.

Supplier management

You can encounter problems when you use a specific provider. Sometimes you require new, additional services and in other instances you might need help in interpreting (the possibilities) that specific services may offer. A difference of opinion may also arise with a supplier. In all of these cases, you can approach the service delivery manager within the SURFcumulus team.

Facilitating Onboarding

¹ GÉANT is the European cooperative organisation of which SURF is a member.

² For institutions affiliated to the SURF cooperative. For those which are not members of the cooperative, it is important to look at the scope of services they purchase directly from SURFnet.

From the moment that you chose one or more cloud providers, a process begins in which the environment must be created and configured, users and roles defined and connections set up. The SURFcumulus team will take care of all of this for you. Watch the [onboarding information](#)

Help desk

SURFcumulus provides users with a central access point for questions and disruptions. This help desk is for both SURFcumulus services (for example, the Cloud Management Platform) and the affiliated suppliers. The help desk delegates the actual processing to the correct party, monitors progress and checks that the user has received the correct assistance. In the event of deficiencies, they will be escalated to the SURFcumulus team. The service delivery managers can view current tickets and can update them, where necessary. The help desk is available 24/7 via e-mail and telephone. In 2020, a portal will be added to the help desk for an even better view of the status of tickets. View the roles and responsibilities of the [help desk](#).

Professional Services

We are seeing institutions increasingly (partially) outsourcing the development and management of their information facilities. In doing so, institutions also consider moving elements of their ICT landscape to the cloud. The implementation is typically phased as follows: creation of a vision in relation to the cloud, determination of architectural principles, configuration of programme/project structure, implementation of migration projects, configuration of cloud competence centre, implementation of cloud governance and operations.

Some institutions are able to do this entirely on their own, whereas others prefer to make use of commercial partners and are therefore often compelled to do so via European tenders. To support institutions in this, SURF will launch a European tender from which institutions can procure services that they support during this phase. We will make use of a Dynamic Procurement System, as a result of which parties that are currently used by institutions may enter at a later date.

Herewith a description of the scope of the tender:

- Development of a hybrid cloud environment/landing zone (technical onboarding);
- Implementation of migration to the cloud;
- Management of services and/or applications in the cloud (for example, IaaS, PaaS and SaaS and technical application management of the services of the SURFcumulus suppliers (incl. support)).

In the fourth quarter of 2019, in partnership with the institutions, we will draft the tender documents, subsequent to which we will publish the tender process. The tender process itself will remain fairly generic, due to the diversity of the demand that we anticipate from institutions.

Once the tender process is complete, from mid-2020, we can arrange mini competitions for institutions which are geared to specific needs. In doing so, the SURFcumulus team will build up knowledge (in terms of the wishes of the institutions and the possibilities for the parties) and will be able to advise institutions to an increasing degree on how to determine the right requirements and wishes and support the internal decision-making process. In view of the fact that institutions often have a hybrid environment (partly local and partly in the cloud), it will also be possible to incorporate the management of local environments in this mini competition to a limited degree.

Using standard KPIs and mandatory annual KTOs (containing standard questions, to be supplemented with institution-specific questions), SURF and the institutions will gain a good picture of suppliers' services across the sectors.

The scope of Professional Services remains consciously limited to the playing field of IaaS (including, for example, patching management), PaaS and SaaS services. As a result, this will allow us to gain experience

efficiently with regard to the provision of services, such as Professional Services. When it appears that this model works and meets the needs of institutions, SURF can decide to configure it in a similar way for different parcels (such as workplace management or LAN/WAN management). This may take place via a delivery model other than SURFcumulus.

N.B.

The scope for Professional Services has not yet been definitively determined.

Community

SURF is setting up user groups in consultation with the participating institutions. SURFcumulus team will use these to share information on relevant subjects and the exchange of knowledge will be promoted. The following user groups will be set up at the beginning of 2020:

- Provider-specific contact groups, for example about Microsoft Azure. The target groups are the managers and architects who work with that supplier on a (daily) basis.
- CMP working group for institutions that make use of the CMP.
- A control group in which developments are discussed at a more strategic level (both in the market and for the SURFcumulus service).

Workshops

SURFcumulus organises periodic workshops for institutions that are only just starting on the path to the cloud. Some examples are legality, compliance and general introductions. These may be given by SURF employees or by independent organisations engaged by SURF. Participating institutions can attend these free of charge.

3.3 Technology

Cloud Management Platform

The Cloud Management Platform provides central, uniform access to your own infrastructure and/or the cloud services of our affiliated suppliers. Via the web portal, administrators, researchers and lecturers at participating institutions can generate and manage resources (such as virtual servers, for example). This could be the switching on and off of servers, the generation of snapshots or logging in to a server remotely.

The Cloud Management Platform offers the following possibilities:

- Uniform management of cloud environments provided by SURF.
- Management of private infrastructure; we support VMware, OpenStack and Hyper-V.
- Discovery of servers and networks within existing supplier accounts and the private data centre (optional).
- Access via SURFconext, possibly in combination with SURFSecureID two factor authentication.
- A self-service catalogue with blueprints that SURF maintains. Any organisation can add specific items to this.
- Configuring usage limits for each cloud supplier, department or group.
- Reporting on resource usage and costs.
- Integration with private CMDB, IPAM, Ansible, Puppet, Kubernetes.
- One standard API over all cloud platforms.

N.B.

The SURF European tender for a Cloud Management Platform is in its concluding phase. The provisional result appears to indicate a continuation of the current CloudBolt product. The above information and the prices quoted are based on this solution. As soon as the definite results of this tender are known, at the end of Q4 2019, we will update the following information and the prices quoted in 6.1.

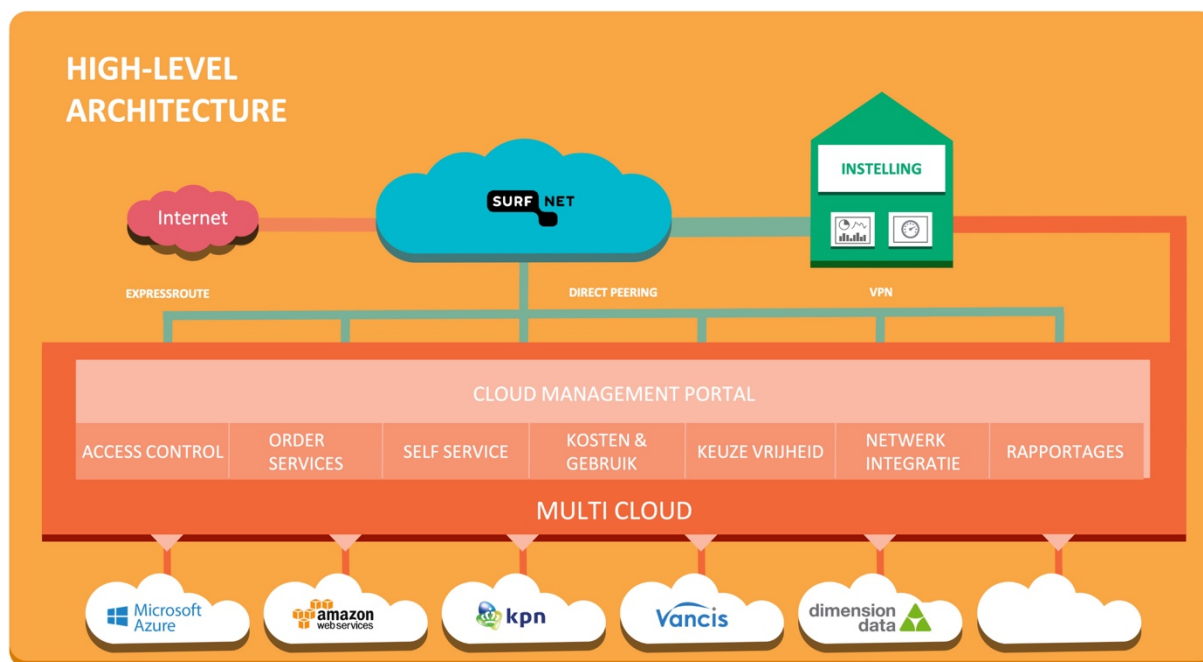


Figure 1 - SURFcumulus architecture

See more information about the [Cloud Management Platform](#).

SURF Virtualisation Platform as a parking place

Institutions that use only public cloud suppliers face a challenge when they want to move services from one supplier to another. To do so, far-reaching agreements need to be made between suppliers for the conversion and specific network connections are often required. The SURFcumulus Virtualisation Platform is an option for this. You can move your Virtual Machines to it and subsequently transfer to the new supplier. SURF offers both tools and hosting capacity to facilitate this process. It is not possible to run services/applications from this temporary location.

Linking via SURFinternet or SURFlichtpaden

SURFcumulus can be linked to the institution's network via SURFinternet and via SURFlichtpaden. We recommend the use of SURFlichtpaden. A guaranteed bandwidth is available over a light path connection and Internet traffic is guaranteed to be separated from the traffic with the cloud suppliers. In addition, light paths are not susceptible to DDOS attacks. Many institutions have a Multi Service Port (MSP). You can set up multiple light paths via a Multi Service Port. No costs are involved if capacity is still available on the MSP. Connection methods depend on the selected underlying network environment. More information about [SURFlichtpaden](#).

Network access Cloud Management Platform

The Cloud Management Platform is widely accessible via the Internet. Logging in is only possible via SURFconext. You can also opt to activate [SURFSecureID](#) to access the Cloud Management Platform if you wish to make use of two-factor authentication.

Network connections to suppliers

Costs for network connections with suppliers vary according to the desired bandwidth and the supplier.

Proof of Concepts and training courses

We organise Proof of Concepts in order to test the capabilities of new (or not yet used) functionalities. We do this in cooperation with the suppliers. This enables functionalities to be tested free of charge, with the support of the supplier. The Use Cases that we set up for this help other institutions to determine usability within their own institution.

Supplier training sessions support institutions in building up knowledge about the public cloud suppliers. As a result, adoption paths are speeded up and the risk of errors is reduced. SURFcumulus organises training courses with the public providers that all participants may follow free of charge. In 2019, some 300 employees of institutions were able in this way to receive free training on Microsoft Azure and AWS. We also expect to be able to offer this type of training courses from a growing number of suppliers in the coming years. For the offer please go to [SURFacademy](#).

Public Cloud Provider Technology

The following summary illustrates how the public cloud suppliers are linked, how to access their systems and which data classification applies to their European data centres.

Supplier	Hypervisor	Primary data centre locations	Data-classification	IP	Connectivity ³
Vancis	VMware	2x The Netherlands	High	IPv4 and IPv6	SURFlichtpad
KPN	VMware and Microsoft Pack	2x The Netherlands	High	IPv4	SURFlichtpad
Microsoft Azure	Microsoft Azure	Amsterdam, Dublin	High	IPv4	Public Internet or SURF light path with ExpressRoute
Amazon Web Services	Amazon Web Services	Frankfurt, Dublin, London, Paris	High	IPv4	Public Internet, later SURFlichtpad with Direct Connect
Dimension Data/NTT	VMware	Amsterdam, London, Frankfurt, Brussels	High	IPv4 and IPv6	Public Internet, later SURFinternet with VPN

More information:

- Current overviews of the options according to suppliers: [SURFdashboard](#).
- View the detailed technical comparison of the [suppliers](#).

3.4 Business case tool

SURF has commissioned the development of a business case tool by an independent party. This allows insight into the cost differences between an on-site environment and cloud services via SURFcumulus. Costs in line with the market are included in this tool using the higher education benchmark, institutions, SURF and an external benchmarking organisation (Gartner). The service delivery manager can fill these in together with the institution. This is free of charge.

³When connecting suppliers, every effort shall be made to gain a direct connection with the SURFnet network (higher security and lower latency than via public Internet).

4 What else you should know about SURFcumulus

4.1 Renewed public cloud supplier offer

A pan-European tender was conducted for cloud services at the end of 2019. A tender comparable to the 2016 GÉANT IaaS tender was conducted in 2016. The public cloud suppliers to SURFcumulus are the result of that tender. In this new tender, SURF will also play a leading role in guaranteeing the usability of the results for SURF institutions. We expect this tender not only to revitalise the current suppliers' offerings, but also introduce new suppliers to the offering via SURFcumulus. Examples of these might be Google, IBM and Oracle. Naturally, we cannot give any advance guarantees on the results of the tender.

SURF wishes to fulfil the role of Underwriter in this tender for all bidders on behalf of all SURF members. In doing so, SURF has provided an advance undertaking to guarantee a specific sum from which the institutions can benefit. SURF will then charge the institution monthly for the resources used. We already use this working method now with Microsoft Azure and this delivers a great deal of added value from which institutions (even those which purchase only low levels of Microsoft Azure services) benefit. Institutions that are not a member of the SURF cooperative will be able to make use of the results of the tender in a different way.

What will we do if the tender process unexpectedly does not deliver the results we anticipate? In that case, we can continue until the end of 2022 to make lawful use of the current SURFcumulus providers that are available. In that case, SURF itself (or with a small number of like-minded countries) will issue its own tender in order to be able to guarantee the continuity of SURFcumulus services.

4.2 Privacy and the GDPR

To guarantee privacy, ownership and availability in relation to servers housed in SURFcumulus, SURF offers transparency about the extent to which the various components comply with the Framework of Legal Standards for Cloud Services in Higher Education.

For suppliers within SURFcumulus, this is done through Compliance Statements, which are transparent as to how the provisions of the SURF Model Data Processing Agreement and under legislation are guaranteed in the agreements. In this Model Data Processing Agreement, the basic principles are defined in relation to privacy and security, which SURF has drawn up together with the institutions.

SURF performs an audit programme, which consists of an internal assessment followed by an external audit in order to establish for the SURFcumulus control organisation that:

- SURF protects (personal) data as stipulated in the Model Data Processing Agreement; and
- SURF, together with SURFcumulus, complies with the provisions set out in the Model Data Processing Agreement in relation to confidentiality, integrity, continuity, effectiveness and efficiency.

The General Data Protection Regulation (GDPR) applies as of 25 May 2018. That means that from this date the same privacy legislation applies throughout the whole of the European Union. Both GÉANT and SURF assume responsibility for adapting agreements in line with it. All suppliers comply with European requirements, as a result of which they are GDPR-compliant.

4.3 Security

SURF and the institutions have joint responsibility for monitoring processes and procedures in order to be able to use the SURFcumulus service securely.

SURF's responsibilities

SURF pays a great deal of attention to security in providing its own service. We follow the [Guide to Security Measures](#) for the Legal Standards Framework for Cloud Services. The audit programme and the latest TPM declaration can be found on our [wiki page](#).

We conduct regular pentests on the Cloud Management platform. We do these periodically, but also when significant changes are made to the architecture.

Responsibilities of institutions

Data classification

The data classification analysis indicates for each supplier what the institution needs to adjust or introduce in order to be able to comply with the data classification capabilities of this supplier.

Software Update Management

Institutions are responsible for (organising) the management of the virtual systems and for (organising) the application of the relevant security patches. In any case, these are that:

- the institution has drawn up a policy and observes it in relation to patching and administration;
- the systems are actively managed;
- The systems are regularly inspected for potential shortcomings;
- in the event of shortcomings, the institution takes appropriate action or has agreements with a third party regarding the implementation of these measures.

In addition, SURF expects that systems for which security updates are no longer made available are decommissioned and removed as quickly as possible.

Information is available on wiki concerning the division of responsibilities between the SURFcumulus suppliers and institutions. This is drawn up on the basis of the [Guide to Security Measures](#).

4.4 Information packages about suppliers

SURF has drawn up an information package about each supplier, which provides the staff involved in the decision-making process with proper information. It contains:

- The tender documents (legality);
- The documents submitted by the supplier;
- The award letter and scores;
- The Framework Agreement with the services and costs;
- The Call-Off Agreement (more detailed agreement or CoA), which SURF will sign on behalf of the institution;
- The Compliance Statement with transparency about the extent of guarantees through the Framework of Legal Standards for Cloud Services in Higher Education;
- The results from the completed data classification analysis.

Institutions that purchase SURFcumulus can download these information packages via [SURFdashboard](#). Interested institutions can apply for this via the service delivery managers.

4.5 Amendment to cloud suppliers' offer

Cloud services are continuously developing and institutions want to be able to make use of new features. Suppliers may add or (after giving early notice) terminate services. GÉANT assesses these kinds of requests on the basis of the definitions of scope within the agreements. New services are then made available at a national or international level. Only services included in the agreements may be made available to the institutions.

4.6 New functions and prioritisation

Together with the institutions in the control group, SURF examines which new functionalities and process amendments offer added value and determines the priority. An up-to-date overview of the roadmap can be found on the [SURFcumulus wiki](#). SURF is able to adjust developments and planning when one or more institutions express a clear preference for this. SURF actively cooperates with the institutions in determining the requirements and prioritising adjustments in the roadmap.

4.7 Adjustments to SURFcumulus services and prices

Complex or far-reaching adjustments or redevelopments and price changes are submitted to the SURF Portfolio Advisory Board (SPA). Institutions are informed of this via the SURF pricing letter.

5 Procuring, changing and terminating SURFcumulus

5.1 Procuring SURFcumulus

Obtaining information and mapping out preferences

Does your institution wish to use SURFcumulus? If so, please contact one of the SURFcumulus delivery managers via sdm@surfnet.nl or via [SURFdashboard](#). This what we will do:

- A written inventory exercise and a discussion with one or more SURF specialists will follow. We map out your wishes and environment.
- Based on this information, we determine how and when SURFcumulus can be delivered to the institution.
- We explain about SURFcumulus and tell you about all the possibilities.
- We look at your institution's needs and provide advice about which suppliers could meet them.
- Upon request, we assist you with the internal decision-making.

Institutions that wish to procure SURFcumulus should take the following steps:

- Go through the supplier Information packages via [SURFdashboard](#) or request them from the service delivery managers.
- Complete contact form.
- Sign SURFcumulus appendix to the User Agreement and complete the Appendices.
- On behalf of the institution, SURF then signs the Call-Off Agreement with one or more suppliers. SURF launched a mini-competition (see Appendix 1) for Microsoft Azure in 2017 in order to obtain additional benefits for institutions. Part of this is that SURF acts as a contracting party for the institutions. A Call-off Agreement is therefore already in place for Microsoft Azure
- We will offer new providers resulting from the new Cloud Services tender in 2019 via a similar structure.

5.2 SURFcumulus contract initial duration

If you wish to procure SURFcumulus, you will receive an initial contract that will run until 1 January 2023.

5.3 Changes

You can easily make standard changes (such as creating and changing VMs) directly yourself within SURFcumulus. Large changes, such as using additional public IaaS suppliers and/or light paths, are carried out in consultation as projects.

5.4 Terminating SURFcumulus

Your institution may terminate SURFcumulus in writing, giving one month's notice.

6 Prices and service levels

SURFcumulus has been developed in cooperation with institutions as a service which supports institutions in all aspects of the path from management to control. SURFcumulus has a subscription structure. In addition, a service contribution is added to the usage costs.

For organisations that are only just starting to gain experience in using IaaS and PaaS services, an entry level version is available: SURFcumulus Light.

With SURFcumulus Light:

- you select one of the suppliers that we have legally contracted;
- SURF still looks after the strategic contract management and the periodic audits of data classification;
- we guide you in concluding contracts with cloud suppliers;
- you coordinate the onboarding yourself directly with the suppliers;
- you contact them directly in the event of incidents;
- you can register for educational and training courses if there are places available;
- In return for a fee, you can make use of specific SURFcumulus workshops at operational and tactical levels.

For SURFcumulus Light, you do not pay any subscription price. You have access only to the public cloud suppliers of the SURFcumulus offer and cannot use any of the other service components described above.

6.1 Not-for-profit and Not-for-loss

SURFcumulus is regarded within SURF as an operating service. This means that we do not use innovation funds but the service must break even. We analyse the balance sheet in terms of income and expenditure on an annual basis and the costs are adjusted, if necessary.

It is set out in contracts at the highest level (between GÉANT and the suppliers) that usage costs may only be adjusted downwards, unless significant exchange rate variations occur for parties whose prices are based on currencies other than the euro.

You will receive changes to the SURFcumulus subscription prices and the service contribution via the standard prices letter (by no later than 1 September). As many institutions are going to use SURFcumulus, we have already been able to reduce subscription fees on several occasions. In 2017, we started with a subscription fee of 3,333 Euros per month. We reduced that to 2,000 Euros per month in 2018 and we are now reducing this further to 750 Euros per month.

Subscription fees

Service level	Cost per month	Service contribution
SURFcumulus Light	EUR 0	7%
SURFcumulus	EUR 750	7%
CMP costs 0-250 resources per resource	EUR 3	
CMP costs 250-1,000 resources per resource	EUR 2	
CMP costs per 1,000 – resources per resource	EUR 1	
SURFcumulus Professional Services	EUR 0	5%

Costs and supplier discounts

The costs for usage of resources and services from suppliers are charged on the basis of actual usage. Current prices and discounts from suppliers can be found in the supplier information packs at [SURFdashboard](#). A more

concise summary of the discounts offered by the various cloud suppliers can be found at [Wiki](#). Due to their commercially confidential nature, these can be found after the SURFconext login. Should you not be able to access them, you can contact the service delivery managers.

Service contribution

A service contribution of 7% applies to all the cloud services you use. For Professional Services, the Service contribution is 5%. This is to cover administrative costs, such as product management, procurement, legal support, audits, contract management, workshops and training courses offered, invoicing etc.

VAT

Prices do not include VAT.

6.2 Invoicing

Invoicing is done monthly in arrears, based on usage with suppliers and the highest measured number of Virtual Machines during the month (Cloud Management Platform (CMP) prices). If required, we can issue split invoices (provisionally up to a maximum of 5 per institution) to faculties or departments, for example. This option is not available to institutions that select SURFcumulus Light.

7 SLS and characteristics

7.1 General provisions

The general provisions of [SURFnet-SLS](#) apply to SURFcumulus.

7.2 Reporting

Reports about the characteristics of SURFcumulus are published [SURFdashboard](#). Service-specific statistics, logging, troubleshooting information and reporting are made available to the institution via specific SURFcumulus reports.

7.3 Availability

Availability of Provisioning component	Value every 4 months
SURFcumulus Cloud Management Platform	99.9%

Availability of Operation component	Value every 4 months
SURF Virtualisation Platform as a parking place	99.9%
Public IaaS services via SURFcumulus	According to individual SLAs

Availability is defined as the availability of the Virtual Machines, not including maintenance windows and network access to the institution. The maintenance windows for SURFnet services are by default from 5am to 7am on Tuesdays. For major upgrades to the SURF Virtualisation Platform, it is possible that an additional maintenance window will be used from midnight to 7am on Thursdays. SURF will inform institutions in good time when interruptions to the service are expected to occur during the maintenance windows.

8 Contact details on request, changes and faults

When?	By whom?	SURFcumulus contact details	Times
In the event of a request or change	Institution Contact Person (ICP) or Institution Authorised Individual (IAI)	E-mail: sdm@surfnet.nl	Office hours
In the event of a fault	ICP, IAI and authorised help desk telephone support individuals (HDTSI). Not available to institutions that have selected SURFcumulus Light.	SURFnet help desk Tel. Tel. 088-SURFNET (+31 (0)887873638) E-mail: helpdesk@surfnet.nl	24/7

Appendix 1: Mini competitions

Microsoft Azure

Azure is offered by four different resellers. In the Netherlands, SURF has held a mini-competition (a limited-scale tender) in 2017 to choose one reseller and in so doing to stipulate additional conditions which are favourable for our institutions. COMPAREX won this mini-competition.

For this party we have been able to stipulate the best offer and the most favourable conditions for our institutions. Amongst other things, these additional benefits include:

- Free onboarding.
- Free annual licence optimisation analysis and advice.
- Free use of the reporting portal.
- Free Pro Direct Support.
- 3% Additional discount.

In COMPAREX's information pack you will also find the competition documents and COMPAREX's tender. The additional discount is stipulated by SURFnet from Microsoft as part of the role SURFnet plays in providing the Azure service and is in any case guaranteed until 1 January 2021.

Because SURF is purchasing the aggregated use of Microsoft Azure through COMPAREX from Microsoft, as an institution you are signing an agreement with SURF.

Amazon Web Services

Amazon Web Services (AWS) can be delivered through its three resellers. SURF has opted for the reseller, TI Sparkle, to make AWS available within SURFcumulus. TI Sparkle combines the best conditions (in relation to the Framework of Standards for Cloud Services) with its own fully-fledged support organisation. We have not held a mini competition for AWS because we anticipate that the turnover will still be too small to justify these additional efforts (for both SURF and resellers). If AWS usage becomes substantial, we will then do so. Of course, this has no implications for servers running on AWS and other services. In that case, institutions can indicate whether they wish to use the results of this mini-competition or continue to use the concluded Call-Off Agreement.

You can also purchase AWS from a reseller other than TI Sparkle. We do not recommend this. Should you still wish to do so, please contact us.

From mid-2020, a different process will apply to the use of AWS as the result of the OCRE tender.

Appendix 2: Abbreviations and Terminology

Abbreviation/term	Meaning
CMP	Cloud Management Portal, the online access and management portal for service components
CoA	Call-off Agreement (further agreement) via which available services are purchased under a Framework Agreement
Contract management	Contract management at a generic level for general aspects surrounding legality and contracting.
GÉANT	The international cooperative organisation within which centralised procurement of public IaaS services has taken place
Institution	An institution affiliated to SURF that fulfils the requirements
Suppliers	Suppliers of infrastructure services (such as IaaS and PaaS services) contracted from the GÉANT tender
Supplier management	Supplier management at institution level, which includes reports and updating of the supplier's product service catalogue
MSP	Multi Service Port, used to set up SURFlichtpaden
OCRE	Open Clouds for Research Environments, https://www.ocre-project.eu
Self-service	An institution itself sets up governance and service management with the supplier. SURF is not involved in operational delivery, such as incident management or service level management
SPoC	Single Point of Contact
SURFcumulus	The hybrid IaaS service as set out in this service description
SURFcumulus Light	Entry model in which you can make use only of services provided by public cloud suppliers
SVP	The SURF Virtualisation Platform (based on VMware) that institutions can use as a parking place for VMs