SCHEDULE DOCUMENT
DISASTER RECOVERY AS A SERVICE (DRAAS)

PUBLIC
NODE4 LIMITED
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This schedule contains additional terms and conditions, service description & Service Levels applicable to the Dsaster Recovery As A Service (DRAAS) and should be viewed with associated Order Form, Node4's General Terms and Conditions and the Acceptable Use Policy.

1. OVERVIEW

The Node4 DRaaS Service enables the Customer to replicate virtual machines that are running on a VMware hypervisor ("source platform") so that they can be restarted on the Node4 n4Cloud platform in the event that the source platform becomes unusable. The source platform may be:

- a Customer VMware platform
- the N4cloud platform running at another Data Centre (for example, virtual machines running on n4Cloud in Leeds, may restart on N4cloud in Northampton).

The service provides the Customer with access to a hosted software package which, when configured, will replicate the disks of a virtual machine on the source platform to the Node4 n4Cloud platform in a specified site.

The n4Cloud platform is described in a separate service schedule document.

In the event of a disaster, the Customer may invoke a "disaster recovery event". When so invoked, Node4 will boot the replicated copy of each virtual machine ("standby VMs") on the n4Cloud platform.

There are various components to the DRaaS Service:

- DRaaS Portal which allows customers to enable replication for additional virtual machines and invoke a 'disaster recovery event';
- Replication software which replicates source virtual machines to the n4Compute platform. Node4 reserves the right to change technologies used from time to time as long as the

functionality provided is similar or better (in the opinion of Node4).

Configuration of networking to redirect traffic to the standby VMs is not part of the scope of this service. It is the responsibility of the customer to ensure that they have a mechanism in place to be able to use/connect to the standby VMs in the event that a disaster recovery event is invoked.

This service only currently supports VMware vSphere virtual machines.

Node4 shall provide:

- initial set-up of an account on the DRaaS platform for the Customer and;
- access to the DRaaS Portal from which customers can setup and manage the list of virtual machines to be replicated.

The Customer is entitled to perform two failover tests in any 12 month rolling period, starting from the Service Commencement Date. When notified to Node4 in advance, the Customer shall be entitled to boot their standby VMs in order to simulate a real disaster recovery event.

The failover tests should not exceed five working days in duration. If this is the case, the Customer shall not be charged for the n4Cloud resource used during the failover test. In the event that a test does exceed five days, Node4 shall levy Fees for the resource consumed on the n4Cloud platform at standard rates, and Fee in full for each and every month the virtual machines are powered on.

Node4 recommends that at least one test is carried out per annum.

In the event that a Disaster Recovery Event is invoked due to loss of a Node4 datacentre, Fees for usage of the standby VMs on the n4Cloud platform shall not apply. In all other circumstances, the Customer agrees to pay Fees for the n4Cloud resource used.

Where the source platform is n4cloud, the Customer acknowledges that they may be required to "failback" to the original platform at a mutually agreed time after the source platform has been declared as having "resumed normal operations" by Node4.

The Node4 service allows customers to create customised Recovery Time Objectives (RTO) and Recovery Point Objectives (RPO) and multiple points within a contiguous five day period. These objectives:

- should be considered as "targets" which are not guaranteed or measured;

- cover the time to make the standby VM ready to be booted, and do not include the time taken to perform infrastructure tasks outside of the recovery software, such as booting the operating system in the standby VMs;

- may be affected if a large number of virtual machines (for a single Customer or multiple Customers) experience a "disaster recovery event" at the same time;

- do not include any time involved to 'invoke' the disaster recovery process such as placing a call to the Node4 helpdesk.

The service is designed to recover the virtual machine image and additional time may be required for applications such as Microsoft SQL Server to become operational. Whilst the software does replicate applications as part of the virtual machine image, the service cannot guarantee that such applications will definitely become operational again, and so it is strongly recommended that the Customer performs disaster recovery tests to maximise the probability that service can be restored.

The service is designed to perform replication, but not backup. Therefore if a source virtual machine becomes corrupted, this corruption will be replicated to the standby VM. In this case, the standby VM would not be operational and the RTO/RPO would be null and void. Therefore it is required that the Customer has a backup system in place to protect their environment. The Customer acknowledges that, if those backups are not also copied to a second site, it may not be possible to resume service if the only copy available is the replicated copy of a corrupt virtual machine.

In the event that failover is required, Customers can evoke in one of the following ways;

- Accessing the DRaaS Portal;

- Calling Customer Support on 0845 123 2229 where a support ticket will be raised on the customer's behalf;

- Raising a support ticket via email to support@node4.co.uk. This option is not recommended where recovery is urgent, as delivery of e-mail cannot be guaranteed.

The Customer is responsible for ensuring that they are compliant with software licensing terms for software replicated to the n4Cloud platform, which may involve the need to purchase additional licenses.

2. DEFINITIONS

"Customer Responsible Faults" means in the event that a Service Affecting or Non-Service Affecting Fault is identified as being attributable to Customer provided equipment, Premises, Customer power supplies, or the action of the Customer, employees or agents of the Customer, the fault shall be deemed the responsibility of the Customer. Any downtime shall not be included in service availability measurements and does not qualify for compensation.

"Contracted Support Hours" Bronze, Silver, Silver Plus and Gold support levels as identified in Incident Management Schedule.

"DRaaS Portal" means the website that the Customer may use to view and configure their DRaaS services.

"Fault Ticket Number" means the unique number issued when logging a fault with Node4.

"Monthly Review Period" means the calendar monthly periods commencing on the 1st of each month during the Term, over which Service performance measurements are calculated, provided that the first Monthly Review Period will commence on Ready for Service Notification;

"Network Management System" means Node4's network integrated fault management system;

"Node4 Network" means the network wholly owned and managed by Node4;

"Non-Service Affecting Fault" means a fault or condition which is not a Service Affecting Fault.

"Planned Outage" means in maintaining the service provided, Node4 may with reasonable notice

require a temporary outage in service. Wherever possible Node4 will agree the outage with you in advance of the required work. Any planned downtime shall not be included in fault or service reliability measurements.

"Professional Service Fees" means the professional service charges detailed on the Order Form or otherwise agreed in writing between the Parties in accordance with Clause 4 below;

"Service Affecting Fault (SAF)" means any failure of Node4 Network, equipment or service, which, in our reasonable opinion causes a loss of a customer's service. In all such cases the service shall be deemed unavailable and the length of downtime recorded by Node4 from when the fault is registered by Node4 and a fault ticket number allocated.

"Service Availability" means the time for which a Node4 service is usable, expressed as a percentage of the total time in a given Service Measurement Period. The Node4 service shall be deemed available for the purposes of calculating Service Availability, even if it is not usable, due to:

- an event outside our reasonable control;
- a Customer Responsible Fault;
- a Third Party Attributable Fault
- due to a Planned Outage including patching and software upgrades

"Standard MAC" means a change to one device which can be completed within 30 minutes by a technical support engineer between 7am and 7pm Monday to Friday.

"Technical Support Centre" means Node4's fault management centre, which operates the Node4 Network Management System;

"Time To Resolve Fault (TTRF)" means the length of time from the issue of the fault ticket number to repair and resolution or the service.

3. SPECIFIC TERMS

The following terms and conditions shall apply when Node4 provides DRaas services to the Customer.

3.1 MINIMUM COMMITMENT

The service is subject to a minimum contract term of 12 months. For termination of the services, there is a minimum notice period of 30 days written notice, the earliest of which can be given at the end of the minimum contract term. Details of minimum commitment terms for additional services shall be detailed on the Order Form.

Fees for the service shall apply at the full monthly rate from the first day of the month in which the *Service Commencement Date* occurs, until the last calendar day of the month in which the service has been terminated.

4. FEES

4.1 FEES PAYABLE BY THE CUSTOMER

Fees will commence when Ready For Service Notification is provided by Node4, this will follow notification from Node4 that the Service is active and available for Customer use. Fees may comprise any or all of the following aspects.

4.2 INSTALLATION AND SET-UP FEES

Any applicable installation and set-up Fees for the implementation of the service shall be detailed on the Order Form.

4.3 RENTAL FEES

Rental Fees are paid either monthly or annually in advance based on the options taken and any other related service and are identified on the Order Form.

4.4 BANDWIDTH FEES

Bandwidth of 4Mbps to carry replication traffic is included by standard. This is a standard allowance and has not been sized or deemed appropriate for individual requirements.

4.5 ADDITIONAL PROFESSIONAL SERVICES

Professional Services may be purchased in addition to what is provided as part of the standard service. A quote can be provided on request, based on Customer requirements.

5. PROVISION OF SERVICE

5.1 SOFTWARE UPDATES & PATCHES

As part of the service, Node4 shall apply software updates and patches to the following systems when they are required due to software defect (bug) or security vulnerability identified by the vendor:

- Servers used by Node4 to provide the service including the DRaaS Portal;

- Network and storage devices used in the provision of the service by Node4.

The Customer will be responsible for patching their virtual machines. It should be noted that a patch applied to a source virtual machine will be replicated to the failover virtual machine. The Customer acknowledges that the service may no longer function if the virtual environment used by the Customer is upgraded to a version that is not supported as part of this service. For example, an upgrade to the version of VMware used by the Customer, or the virtual machine version, may prevent the service from working correctly. In such circumstances, the Customer shall continue to pay the Fees for the service and the service shall continue to be considered as "available".

5.2 HARDWARE MAINTENANCE

Any fault relating to hardware failure on the n4Cloud platform is covered by hardware maintenance which is provided as part of the service. The Customer acknowledges that from time to time hardware maintenance may cause a loss of service, though Node4 will take reasonable measures to prevent this occurring as part of the design.

5.3 MONITORING

Node4 monitor the service elements managed by Node4 as standard via the Node4 monitoring system to provide pro-active fault management by Node4 during the Contracted Support Hours. In the event that a Node4 device used in the provision of the service stops responding, or a monitored threshold is exceeded, Node4 Technical Support Centre will pro-actively investigate:

- On a 24*7 basis, where the issue is deemed by the support engineer to be such that it shall prevent or is preventing a) the replication of data from the Customer's virtual machines and/or b)

the service from being able to failover virtual machines if required;

- During the Contracted Support Hours, for all other issues, including reduced performance.

Node4 will undertake capacity management to ensure the SLA targets can be met.

The Customer shall not have access to monitoring or capacity data.

5.4 POWER

Power to the n4Cloud platform is provided using dual feeds from a single provider. UPS and Generator back-up is also provided with a minimum N+1 configuration. The Customer is responsible for ensuring that power supply to the environment for which failover is provided is sufficient to provide uninterrupted service, and acknowledges that should that environment fail, replication will temporarily cease, meaning that the recovery point objective (RPO) may be breached. In such a case the Customer acknowledges that the service shall be deemed as operating normally.

5.5 INTERNET SECURITY

Node4 provide n4Cloud customers with public internet access. Internet Security and Virus Protection is the responsibility of the Customer. All internet usage is subject to the Acceptable Use Policy.

The DRaaS Service is managed from an internet accessible portal. Node4 have secured this by placing it behind a firewall and using SSL encryption from the DRaaS Portal to the Customer. In order to obtain access Customers are allocated usernames and passwords on a per-person basis. It is possible to restrict functions for a group of users by creating a 'role' and specifying the activities that any user with that role may perform. The Customer agrees that the usernames and passwords shall be safely stored at all times and that the individual is responsible for all actions carried out using their user name.

5.6 IP ADDRESSES

The number of public internet routable IP addresses assigned will identified on the Order Form. IP address usage is monitored and reported to RIPE database. The use of IP addresses must be justified. It is the Customer's responsibility to use their assigned IP addresses. Use of non-assigned IP

addresses will result in immediate disconnection from the Node4 Network.

Because the DRaaS Service is a shared platform that will involve elements managed by the Customer and elements managed by Node4, the Customer must agree the IP addressing scheme with Node4.

5.7 SERVICE INSTALLATION AND PROVISIONING

Standard set-up is provided. For more complex configurations a technical scope document will be agreed and any relevant Fees are identified on the Order Form.

5.8 SITE SECURITY

The following security measures are in place at Node4 data centres:

- Perimeter fencing with electric gates
- Access via photo swipe card system
- CCTV with 24 hour recording both external and internal to the data centre
- Access Control Procedure
- Data Centres are manned 24 hours a day.

5.9 DATA CENTRE ACCESS

Access to the data centre is not permitted for the DRaaS Service as the service is managed by Node4 and operated by the Customer using the DRaaS Portal.

Where the Customer has chosen to merge a Colocation Service with the DRaaS Service access will be provided to the Colocation elements as discussed in the Schedule Document for Colocation Services.

5.10 CUSTOMER SUPPORT

Node4 provides Gold Support as standard for these services.

Node4 provides the service direct to the Customer. The Customer commits to fully manage all their customers and suppliers directly. Node4 will not interface directly with any third parties working with the Customer. If the Customer requires Node4 to provide their customers with a customer care or NOC service this is available on request and subject to Professional Service Fees. Node4 shall not be liable

in respect of any contract, agreement or relationship that Customer may have with any third party. If a dispute arises between Customer and a third party involving Node4's DRaaS Service, Node4 shall provide the Customer with reasonable information and assistance (to the extent that such is not adverse to Node4's interests to Customer (at Customer's expense)) in the resolution of such dispute.

5.11 MAINTENANCE WINDOW

Where Node4 plans to perform essential works and the changes are service affecting, Node4 will use reasonable endeavours to perform such works between the hours of 00:00 and 04:00 and will use reasonable endeavours to give the Customer at least five (5) days prior notice for network related work and at least ten (10) days prior notice for Infrastructure related work. In the event of an emergency or Service Affecting Fault such notice may be less than 24 hours. This is without prejudice to or limitation of the definition of Planned Outage.

5.12 CHANGES

Moves, Adds & Changes (MAC) are not provided as part of the standard service. If "Full Management" is taken and included on the Order Form an unlimited number of Standard MACs are included (fair use policy applies), Node4 will endeavour to complete Standard MACs within 3 Business Days.

Change requests conducted outside of the support contract, or change request implemented outside normal business hours will be dealt with as chargeable projects and subject to the Support and Professional Services Fess in 4.5.

6. FAULT REPORTING AND MANAGEMENT

6.1 FAULT HANDLING

Faults are handled as outlined in the Incident Management Schedule.

6.2 TIME TO REPAIR

Node4 aims to resolve requests in relation to the Node4 infrastructure causing a loss of service within four (4) hours, with the following response times:

	Description	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5
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Description	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5
Faults & Technical Queries Acknowledgement*	30 Mins	30 Mins	1 Hr	2 Hrs	1 Day
Remedial Engineer Actions Commence	1 Hr	2 Hrs	4 Hrs	12 Hrs	N/A
Time to Resolve Fault**	4 Hrs	4 Hrs	24 Hrs	72 Hrs	5 Days***

	Description	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5
Non-Business Hours	Faults & Technical Queries Acknowledgement*	60 Mins	60 Mins	Auto-mated Email Response	Auto-mated Email Response	Auto-mated Email Response
	Remedial Engineer Actions Commence	2 Hrs	2 Hrs	N/A	N/A	N/A
	Time to Resolve Fault**	5 Hrs	5 Hrs	N/A	N/A	N/A

Hours of response is dependent on Service Level (Bronze, Silver, Silver Plus, Gold)

All priority 1 & 2 faults should be raised via the tickets system then followed by a phone call.

* Acknowledgement refers to an automated service which generates a response and alerts engineers of a service failure; or where there is dialogue between the client and the engineer.

 ** We will use reasonable endeavours to adhere to the TTRF guidelines. Where fault resolution involves third parties, or hardware replacement, then this is subject to the support contracts in place with those parties.

6.3 FAULT DURATION

All faults recorded by the Network Management System will be reconciled against the corresponding fault ticket raised by the Technical Support Centre. The exact fault duration will be calculated as the elapsed time between the fault being reported to the Technical Support Centre and the time when Service is restored.

7. SERVICE CREDITS

The following equation will be used to calculate the DRaaS replication and DRaaS portal availability. References to hours are to the number of hours in the applicable Monthly Review Period:

((Total hours – Total hours Unavailable)/Total hours) x 100

Node4 will provide the Customer with service credits, as set out below, for the failure to meet the following targets:

7.1 DRAAS REPLICATION AVAILABILITY

Availability	Service Credits as % of Monthly DRaaS Service Charge
<99.99%-99.85%	5%
<99.85%-99.7%	10%
<99.7%-99.5%	20%
<99.5%-99.0%	25%
<99%	50%

7.2 DRAAS PORTAL AVAILABILITY

Availability	Service Credits as % of Monthly DRaaS Service Charge
<99.9%-99.7%	5%
<99.7%-99.5%	10%
<99.5%-99.0%	20%
<99.0%-98.5%	25%
<98%	50%

7.3 CALCULATION OF SERVICE CREDITS

Where a Monthly Review Period incorporates part of a month, any service credit will apply to a pro-rated monthly Rental Fee.

Service credits will be calculated monthly, aggregated and credited to the Customer on a quarterly basis.

If a Service is cancelled during a Monthly Review Period, no service credit will be payable in respect of the service for that Monthly Review Period.

The Customer must claim any service credit due to a failure to meet the Service Levels, in writing, within twenty-one (21) Business Days of the date at which the Customer could reasonably be expected to become aware of such failure, otherwise no service credits shall be payable. The Customer shall not be entitled to any service credits in respect of a claim unless and until Node4 has received notice of the claim in writing in accordance with the above. Should Node4 require additional information from the Customer, the Customer shall assist, and shall not be entitled to any service credits until Node4 has received all the information it has reasonably requested.

7.4 EXCLUSIONS TO PAYMENT OF SERVICE CREDITS

Without prejudice to or limitation of the definition of Service Availability, service credits will not be payable by Node4 to the Customer in relation to the Service Availability for faults or disruptions to the Services caused by any of the following:

- The fault, action or negligence of the Customer, its employees, agents or contractors;

- The Customer failing to comply with the provisions of the Agreement;

- A fault in, or any other problem associated with, equipment connected on the Customer's side of the Node4 Network termination point, except where such fault or problem is directly caused by the fault, action or negligence of Node4, its employees, agents or contractors;

- Any event described in Clause 10 (Force Majeure) of Node4's Terms and Conditions;

- Any Planned Outage.

Service credits are not applicable for more than one breach of any targets outlined in this document arising from the same occurrence.