

Service Specific Terms



IP-VPN Service

Vodafone Business Customers

1. The Service - Overview

The IP-VPN Service is a private Wide Area Network (WAN) service that supports data, voice, and video traffic virtually over a shared packet network. The IP Virtual Private Network (VPN) is built and configured among various Customer Sites that are connected to the Vodafone IP-Multi-Protocol Label Switching Network. It uses a range of site topologies and network access methods, such as private fixed line circuits (ADSL, VDSL, EFM, Fibre Ethernet, and leased line), wireless access, SISA, and Extended Access Service. Additional IP-Network features are available including Multi-VPN/VRF-Lite, IPv4 Multicast, IPv6, and Extranets. The term “**Service**” or “**Services**” in these Service Specific Terms means the IP-VPN Service.

2. Service Term Structure

2.1 These Service Specific Terms include:

- (a) the service specification, which sets out a description of the Service, including Optional Service Elements and complementary Services (where applicable) and may be updated from time to time (the “**Service Specification**”). The specific Service Elements selected by Customer will be set out in the Commercial Terms and/or Order; and
- (b) the service levels which set out the standards that will be applied to the provision of the Service (in addition to the standards set out in the Tiered Support Service Specific Terms) (the “**Service Levels**”).

2.2 The following documents further govern Vodafone’s supply of the Service and form part of the Agreement, applying in the order of precedence set out in the General Terms:

- (a) the Commercial Terms;
- (b) the General Terms;
- (c) Extra Service Terms;
- (d) the Fixed Service Terms available at www.vodafone.co.uk/terms;
- (e) the Tiered Support Service Specific Terms available at www.vodafone.co.uk/terms;
- (f) the Order, which confirms the Service Elements selected by/for Customer;
- (g) the Statement of Work; and
- (h) any applicable policies and guidelines, as provided from time to time by Vodafone.

3. The Service

3.1 The Service offers Customer the option to purchase the following service packages: (i) Wires Only; or (iii) Managed.

3.2 In addition to the service package selected by Customer, the Service shall comprise:

- (a) Core Service Elements; and
- (b) additional Optional Service Elements (where selected)

Both Core Service Elements and Optional Service Elements selected by Customer shall be set out in the Commercial Terms and/or Order. The Service Specification summarises the available Core Service Elements that are included in the base Charges and the Optional Service Elements available for an extra charge for each of the service packages listed above.

3.3 In connection with all service packages listed above, Customer may order Mobile Data Access (“**MDA**”), Cloud Connect, Enhanced Network Based Internet Access (“**Enhanced NBIA**”), Secure Network Gateway (“**SNG**”), Secure Remote User Access (“**SRUA**”) and Online Performance Reporting,, all as described in the Extra Service Terms.

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3.4 Following the Agreement Start Date, Vodafone may complete any necessary preparatory works which may include reserving network capacity and components, entering into Third Party Provider contracts, ordering Equipment and completing Site Surveys.

4. Equipment

4.1 **Use of Vodafone Supplied Router:** Clause 3.1 of the Fixed Service Terms applies to Customer's use of Vodafone Supplied Router. If the Vodafone Supplied Router becomes unsupported by the manufacturer, Vodafone may replace the Vodafone Supplied Router with an equivalent supported router at Vodafone's discretion.

4.2 **Use of Customer Supplied Router:** Clause 3.2 of the Fixed Service Terms applies to Customer's use of Customer Supplied Router. If Vodafone determines the Customer Equipment (including Customer Supplied Router) to be unsuitable to enable Vodafone to provide the Service, Customer shall reimburse Vodafone for any additional costs Vodafone incurs as a result of any such replacement.

4.3 The Statement of Work, Commercial Terms and/or Order will identify which Fixed Equipment, if any, Vodafone will supply to the Customer and which of such Equipment will be purchased by Customer. Associated Charges shall be set out in the Commercial Terms and/or Order.

4.4 Customer must have a Router on the Customer Site(s) to use the Service. Any additional Customer Equipment required to use the Service shall be identified in the Statement of Work, Commercial Terms and/or Order (if applicable).

4.5 **Vodafone Supplied Router:** Where Customer elects to receive the Managed service package or the Maintained service package (with Vodafone's Supplied Router), the following shall apply:

(a) **Vodafone obligations:** Vodafone will be responsible for the installation, maintenance, performance, change requests and compatibility of that Vodafone Supplied Router with the Service as set out within these Service Specific Terms and/or Service Specification.

(b) **Customer obligations:** Customer shall comply with clause 3 of the Fixed Service Terms.

5. Service Specific Conditions of Use

5.1 **Third Party Providers:** Vodafone will use a Third Party Provider or Vodafone Group Company that has the necessary authority to provide a Service Element where required by Applicable Law. Vodafone may novate any Agreements as required in order to comply with Applicable Law.

5.2 **PSTN and IP Voice / Video services:** Customer acknowledges that the Service is not a public voice service. Customer and its Users shall not connect or seek to connect the Service to any public voice service, including the public switched telecommunications network (PSTN) or other voice or video services (e.g. voice over IP) unless Customer purchases such services from Vodafone or Customer is permitted to connect the Service to a PSTN in accordance with Applicable Law.

5.3 **Public Internet service:** Customer acknowledges that the Service is not a public Internet service. Customer and its Users shall not connect or seek to connect the Service to a public Internet service and/or enable the use of public Internet for any voice or video communication service (e.g. voice over IP), unless Customer purchases public internet service from Vodafone or Customer is permitted to connect the Service to a public internet service in accordance with Applicable Law.

5.4 **Security Obligations:** Customer will: (a) design, implement, manage and archive configuration of internal IP protocols, LAN information and access lists; (b) provide reasonable security on the Equipment and Customer's private networks to limit misuse of or threat to the Service, Equipment or Network; (c) address any misuse or threat identified by Vodafone through the implementation of further security or user controls; and (d) only use the SIM(s) provided by Vodafone where Mobile Data Access is provided.

5.5 **Asymmetric Access Bandwidths:** Where Customer Sites are connected by Asymmetric Access Bandwidths, Vodafone shall inform Customer of the date of the Customer Site visit but may not confirm an exact time.

5.6 **DSL:** Where any Customer Sites are connected to the Backbone by an access circuit using DSL, SISA utilising DSL and Mobile Data Access, the following clauses shall apply:

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- (a) Pre-sales availability checks are not an absolute guarantee that the access method, or specific variant, can be provided.
- (b) The provision of the Service is conditional upon confirmation from any third-party supplier to be used in connection with the Service that it is able, and agrees, to provide the access method and, if relevant, installation and/or survey services, at the relevant Customer Site.
- (c) Where an ordered access circuit or service, cannot be provided, Vodafone will advise Customer of alternative options and Charges. Customer may order an alternative or cancel such service or access circuit, without incurring an applicable Recovery Charge. In these circumstances, the Customer shall not be entitled to any compensation in respect of such cancellation.
- (d) Where Customer Sites are connected by DSL, Vodafone shall inform Customer of the date of the Customer Site visit but may not confirm an exact time

5.7 Ethernet Access:

- (a) Where dual access is provided using third party access circuits, Vodafone cannot guarantee end-to-end diversity of the access circuits.
- (b) Where an access circuit ordered cannot be provided at a Customer Site, Vodafone will advise Customer of alternative options and Charges. Customer may order an alternative or cancel, without incurring an applicable Recovery Charge. In these circumstances, Customer shall not be entitled to any compensation in respect of such cancellation.

5.8 Secure Internet Site Access:

- (a) Where Secure Internet Site Access is ordered by the Customer as an access method, Vodafone will provide access to the Service via an encrypted tunnel over a local in-country public internet access service.

5.9 Simple Network Management Protocol:

- (a) Vodafone may withdraw the SNMP read-only access Service at any time if: (a) in Vodafone's opinion, it represents a potential or actual security risk to the Services; (b) it is used by the Customer in a way which constitutes a breach of the Agreement or results in a breach by Customer of the SNMP read-only access service security; or (c) in Vodafone's reasonable opinion, it prevents further enhancements to Vodafone's services, including but not limited to the Services.
- (b) If Customer's use of the SNMP read-only access Service deliberately, negligently or recklessly causes an impact on Network or device performance, Customer shall be liable for the costs incurred by Vodafone for rectifying the problem.

5.10 **Classes of Service:** If Vodafone does not provide a Vodafone Supplied Router, Customer is responsible for configuring the Customer Supplied Router in accordance with the relevant CoS codes. Failure to do so will prevent the CoS profile from working and Vodafone shall have no liability in respect of such a failure.

5.11 **Regulated Items:** The use, export, and/or import of certain Equipment are subject to Applicable Laws ("**Regulated Items**"). Customer must only deploy, export, import, and/or disclose Regulated Items in strict compliance with all Applicable Laws, and specifically Applicable Laws regarding encryption. If Applicable Law prohibits the export, re-export, import, and/or use of a Regulated Item in certain jurisdictions, that prohibition may preclude the use of the Service in those jurisdictions.

5.12 **Resale:** If the Customer is granted the right by Vodafone to resell the Service to others or resell some functionality that a Service provides to others (each, an "**Other User**" and each such action, a "**Resale**"), Customer shall:

- (a) as between Customer and Vodafone, be responsible for the Other Users' use of the Service;
- (b) be responsible for all dealings with the Other Users about the Service;
- (c) require each Other User to agree in writing to abide by the obligations set out in the Agreement that relate to Users, including restrictions on use and misuse of the Service;

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- (d) not make any representation or warranty, or offer any indemnity to or otherwise make any commitment to any Other User on Vodafone's behalf;
- (e) comply with all Applicable Laws pertaining to Resale, including maintaining any licenses, permissions, ministerial determinations, directions and declarations and other governmental approvals needed for Resale; and
- (f) reimburse Vodafone for any costs or expenses Vodafone incurs as a result of any breach by Customer of this clause 5.1211.

6. Service Change Request Procedure

- 6.1 Customer may propose a change to the Service by written request ("**Service Change Request Procedure**"). Upon agreement, the Parties must authorise the change in the form of a change Order or other written amendment to the Agreement (a "**Change Order**"). Vodafone has no obligation to commence work in connection with a change until a Change Order is executed by the Parties. If it is necessary to use additional resources or to incur any other additional costs in making a change, they shall be calculated as a change to the Charges.

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Service Specification

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(Note: Service Specification is available on request).

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1. General Support Service Terms

1.1 Support Service is available as shown below:

Support Service	Service Cover Period
Incident Management for Severity Level 1 & 2 Incidents	24/7
Incident Management for Severity Level 3 & 4 Incidents	Working Hours
Service Request Fulfilment	Working Hours

1.2 Incidents may be reported at any time; however, Incident resolution will only occur during Working Hours for Severity Level 3 and 4 Incidents.

1.3 Customer must appoint primary and secondary points of contact responsible for accessing the Support Service and communicating with Vodafone during the relevant Service Cover Period. Customer will inform Vodafone, and keep Vodafone up-to-date with the appointed individuals' identity and level of access.

1.4 Customer will: (a) reimburse Vodafone for reasonable expenses associated with a Customer Site visit or for other actions taken when Customer has reported an Incident caused by an Excluded Event; and (b) permit Vodafone to interrupt the Service at the Customer Site to resolve the Incident.

1.5 Vodafone may temporarily interrupt the Service to carry out Planned Works. Vodafone will notify Customer in advance of any Planned Works. "**Planned Works**" means planned Vodafone-initiated changes to the Service or Equipment (for example, to carry out essential maintenance or upgrades).

2. General Service Level Terms

2.1 Service Levels and Service Credit terms apply from the Service Commencement Date for the applicable Customer Site depending on the Service Level measure, unless stated otherwise.

2.2 Service Levels do not apply to Incidents caused by or connected to an Excluded Event.

2.3 Service Levels and Service Credits apply to Customer Sites located within a PoP Tier or SISA Band location. When a Customer Site falls into a SISA Band, the Service Levels for the SISA Band will apply instead of the Service Levels for Pop Tiers. If a location does not fall within a PoP Tier or SISA Band, Vodafone will use reasonable endeavours to deliver the Services and will provide a Service Level Objective for those locations on request.

2.4 If Customer selects an access technology not recommended by Vodafone, the Service Levels will not apply to the affected Customer Site and different Service Levels or Service Level Objectives will be agreed between the Parties.

3. Service Availability

3.1 **Calculation:** Percentage Availability is calculated as: $[(A - B)/A] \times 100$. "A" equals the number of minutes in each full month e.g. during a 30-day monthly period A will equal 43200. "B" equals the number of whole minutes when the Service is Unavailable in the Monthly Measurement Period.

3.2 **Service Levels:** The following Availability Service Levels and Service Level Objectives apply to each Customer Site in a relevant PoP Tier, SISA Band or Extended Access Country Group depending on the Site Classification:

(a) **Target availability - PoP Tier 1 – PoP Tier 5:**

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Site Classification	Pop Tier 1		Pop Tier 2		Pop Tier 3		Pop Tier 4		Pop Tier 5	
	%Service Availability	*Minutes Unavailable	%Service Availability	*Minutes Unavailable	%Service Availability	*Minutes Unavailable	%Service Availability	*Minutes Unavailable	%Service Availability	*Minutes Unavailable
Business Basic	96.50	1533	93	3066	93 (SLO)	3066	None	N/A	None	N/A
Business Standard	98	876	96	1752	96 (SLO)	1752	None	N/A	None	N/A
Corporate Basic	99.90	43.8	99.85	65.7	99.4	262.8	98 (SLO)	876	98.88	491
Corporate Standard	99.95	21.9	99.90	43.8	99.6	175.2	98.8 (SLO)	525.6	99.44	245*
Corporate Core	99.99	4.38	99.95	21.9	99.7	131.4	99 (SLO)	438	99.72	123
Corporate – Core Plus	99.995	2.19	99.99	4.38	N/A	N/A	N/A	N/A	N/A	N/A

*Only when secondary circuit over Ethernet, EFM or Leased Line. Unavailable minutes shown above are an example and assumes a 30-day monthly period.

(b) Target Availability - Secure Internet Site Access:

Site classification	Service availability	* Minutes Unavailable
SISA IPSec Only	99.99%	4.38 minutes
SISA Business Basic	93% (SLO)	3066 minutes
SISA Business Standard	93.5% (SLO)	3220 minutes
SISA Corporate Basic	98% (SLO)	876 minutes

*Unavailable minutes shown above is an example and assumes a 30-day monthly period.

(c) Target Availability - Extended Access:

EA Country Group	Single access Customer Site	Dual access Customer Site
1	99.7%	99.9%
2	99.2%	99.5%
3	99.0%	99.2%

Extended Access Services apply to those Customer Sites located in an Extended Access Country Group.

4. Severity Levels of Incidents

4.1 A description of the different Severity Levels is set out below:

Severity Level	Severity Level definitions
1	A total loss of the Service at one or more Customer Sites.
2	Partial loss of Service (at one or more Customer Sites) that has a significant detrimental effect on Customer's ability to perform normal communications (examples include, packet loss over 25% or loss of capacity).



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3	Degradation in Service performance, or a Severity Level 1 or 2 Incident where Vodafone has either been (a) denied access to the Customer Site, or (b) unable to complete Planned Works (for reasons outside of Vodafone's reasonable control) to restore normal service.
4	A non-Service affecting Incident or Incidents not classed as Severity Level 1, 2 or 3 Incidents.

4.2 The above Severity Level descriptions shall not apply to Incidents with NBIA, SNG or SRUA Optional Service Elements., A description of the different Severity Levels for these Optional Service Elements are set in the NBIA, Secure Network Gateway and Secure Remote User Access Extra Service Terms.

5. Incident Resolution Times

5.1 Severity Level 1 and Severity Level 2 Incidents are both treated with urgency. Incident Resolution Time is calculated as the number of whole hours between the time Vodafone issues a Unique Identifier and the time Vodafone issues a Closure Notification for the Incident.

5.2 **Classification:** Incident resolution Service Levels apply per circuit rather than to the overall Customer Site configuration.

5.3 **Service Levels:** The target Incident resolution times for Severity Level 1 and Severity Level 2 Incidents are as follows:

(a) **PoP Tiers:**

Site Classification	PoP Tier 1	PoP Tier 2	PoP Tier 3	PoP Tier 4	PoP Tier 5
Business – Basic	24 hours	48 hours	48 hours	Reasonable Endeavours	Reasonable Endeavours
Business – Standard	24 hours	48 hours	48 hours	Reasonable Endeavours	Reasonable Endeavours
Corporate – Basic	4 hours	6 hours	12 hours	12 hours	36 hours
Corporate – Standard	4 hours	6 hours	12 hours	12 hours	36 hours
Corporate – Core	4 hours	6 hours	12 hours	12 hours	36 hours
Corporate – Core Plus	4 hours	6 hours	n/a	n/a	n/a

(b) **SISA Bands:**

Site Classification	SISA Band A	SISA Band B	SISA Band C	SISA Band D
SISA IPSec Only	4 Hours	4 Hours	4 Hours	4 Hours
SISA Business Basic	48 Hours (SLO)	48 hours (SLO)	96 hours (SLO)	96 Hours (SLO)
SISA Business Standard	48 Hours (SLO)	48 hours (SLO)	96 hours (SLO)	96 Hours (SLO)
SISA Corporate Basic	8 hours (SLO)	12 hours (SLO)	24 hours (SLO)	48 Hours (SLO)



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6. Service Degradation

6.1 The Service Degradation Service Levels apply when: (a) Customer Sites are: (i) directly connected to the IP Backbone Core at one of the available symmetric bandwidth options, or (ii) connected using the Asymmetric Bandwidth option if the target explicitly states it applies to an Asymmetric Service; (b) the distance between the Vodafone Managed Router (as applicable to the Service Level or SLO) and the IP Backbone Core is less than 150 kilometres; (c) where symmetric bandwidth access circuits are provided, the minimum available port bandwidth, is at least 1.5Mbps; (d) the IP packet size is 64 bytes for Premium CoS and the average packet size for Standard and Enhanced CoS is 384 bytes; (e) Premium CoS bandwidth, as applicable, at the Customer Site is a maximum of 50% of the port bandwidth; and (f) apply from the most recent Service Commencement Date for the relevant Customer Site.

6.2 The Service Degradation Service Levels do not apply: (a) to Severity Level 1 or 2 Incidents; (b) where the Incident is due to an Excluded Event; and/or (c) to local internet access as part of Secure Internet Site Access service (if ordered by the Customer as an Optional Service Element) and/or (c) if Customer exceeds the bandwidth specified in the Order for the relevant Class of Service.

6.3 Service Degradation Measurements:

(a) Round Trip Delay (“RTD”):

- (i) The Round Trip Delay SLO and Service Levels are measured as the total time taken for an IP packet to pass from one applicable Router to another applicable Router and then back to the original Router. The RTD SLO and Service Levels will be calculated as the average of all measurements taken in the Monthly Measurement Period.
- (ii) The RTD Service Level Objectives for the IP Backbone Core between two IP Backbone Core Routers are set out below:

CoS	Service Level
	RTD IP Backbone Core (between two IP Backbone Core Routers)
Premium CoS	Section 1 of the Round Trip Delay Table
Enhanced CoS	Section 1 of the Round Trip Delay Table
Standard CoS	n/a
Default CoS	n/a

(b) Packet Loss:

- (i) Packet loss measures the percentage of IP packets that are not successfully sent over the IP Backbone Core during the Monthly Measurement Period.
- (ii) The Service Levels for packet loss is as follows:

CoS	Service Level		
	Both Customer Sites connected using Symmetric bandwidths	One or both Customer Sites connected using Asymmetric bandwidths	Extended Access
Premium CoS	0.04%	0.2%	0.1%
Enhanced CoS	0.06%	0.3%	0.5%
Standard CoS	0.08%	n/a	n/a
Default CoS	n/a	n/a	n/a



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*Assumes the use of 64 byte IP packets.
 **Assumes the use of 384 byte IP packets.

(c) **Jitter:**

- (i) Jitter measures the variation between the arrival of consecutive 64 byte IP packets caused by network congestion, timing differences or route changes as an average over the Monthly Measurement Period.
- (ii) The jitter Service Levels below apply to pairs of Customer Sites connected with Asymmetric or symmetric bandwidths.

CoS	Access Circuit bandwidth/ connection method:	Service Level	Service Level – Extended Access
Premium CoS only	<1 Mbps	67 milliseconds	20 milliseconds
	1 Mbps to 10 Mbps	20 milliseconds	
	>10 Mbps	<10 milliseconds	
	>155 Mbps	<5 milliseconds	

7. Service Credits

7.1 General Service Credit terms:

- (a) Customer must claim all Service Credits via the Vodafone account manager within 30 days of the end of the Monthly Measurement Period. Service Credits will be applied to Customer's next bill after agreement that such Service Credits are due.
- (b) Service Credits do not apply for any failure or delay in performing the Service that arises out of, or in connection with: (a) the Service operating on back-up links (except during Incident resolution times); (b) line errors; (c) intermittent Incidents which do not prevent the use of the Service and which are not Severity Level 1 or 2 Incidents; (iv) Online Performance Reporting; and/or (d) any Excluded Event.
- (c) The total Service Credits payable in any given Monthly Measurement Period shall not exceed 100% of the monthly recurring port Charge for the affected Customer Site.
- (d) If one Incident causes a failure of two or more Service Levels, only the greater Service Credit amount of the two Service Levels shall be payable.
- (e) Service Credits as set out in these Service Specific Terms shall be the Customer's sole and exclusive remedy against Vodafone in respect of any failure in Service performance. Service Credits have been calculated as, and are, a genuine pre-estimate of the loss likely to be suffered by the Customer for failure in Service performance. Service Credits may only be applied to Charges for the Service and have no cash value.

7.2 Service Credits for delay:

- (a) Customer is entitled to a Service Credit if the Service Commencement Date of a new Service Element at a Customer Site or Configuration Change is delayed beyond the Agreed Delivery Date.
- (b) The applicable Customer Site must be in a PoP Tier or SISA Band and directly connected to the IP Backbone to claim a Service Credit for delay.

Delay in Service Commencement Date of:	Number of whole Working Days	Service Credit (% of the Installation Charge/relevant Configuration Change charge)
New Customer Site or Hard Configuration Change.	1 to 10	5%
	11 to 20	20%



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	>20	25%
Soft Configuration Change to Customer Site.	1 to 10	5%
	>10	20%
Customer may only claim a Service Credit for the highest applicable time period category, not each time period that may pass for the same Incident.		

- (c) The Installation Charge referred above is Vodafone's standard Installation Charge excluding any additional Charges due to specific Customer Site requirements, for example additional construction Charges.

7.3 Service Credits for Availability

- (a) The Service Credit is a percentage of the monthly recurring port Charges for the affected Customer Site during the Monthly Measurement Period. A Service Credit cap of 50% of the monthly recurring port Charge for the affected Customer Site applies to the Service Credits Customer may claim for this Service Level each Monthly Measurement Period.

- (b) Availability at the Service Demarcation Point per Customer Site located in a PoP Tier or SISA Band:

Difference in actual monthly Availability % versus Service Level in the Monthly Measurement Period	Service Credit
Up to -1%	2.5%
>-1% to -2%	10%
>-2% to -3%	20%
>-3%	50%

- (c) Availability at the Service Demarcation Point per Customer Site located in an Extended Access Country Group in a Monthly Measurement Period:

EA Country Group	Single Access Customer Site Availability	Dual Access Customer Site Availability	Service Credit Percentage
1	99.7% to 98.7%	99.9% to 98.9%	25%
	Less than 98.7%	Less than 98.9%	50%
2	99.2% to 98.0%	99.5% to 98.3%	25%
	Less than 98.0%	Less than 98.3%	50%
3	99.0% to 97.0%	99.2% to 97.2%	25%
	Less than 97.0%	Less than 97.2%	50%

7.4 Service Credits for Incident Resolution:

- (a) The Service Credit is a percentage of the monthly recurring port Charges for the affected Customer Site during the Monthly Measurement Period. The following Service Credit applies to the Incident Resolution Service Levels:



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Number of hours beyond the Incident resolution Service Level that the Severity Level 1 or 2 Incident remains unresolved	Service Credit Percentage	
	Business sites	Corporate Sites
Between 1 and 15 hours inclusive rounded up to the nearest hour	2.5% per hour	5% per hour
More than 15 hours	50%	100%
Customer may only claim a Service Credit for the highest applicable time period category, not each time period that may pass for the same Incident.		

7.5 Service Credits for Service Degradation:

- (a) The following Service Credit for Service Degradation applies when Vodafone has: (a) verified that the relevant Service Level has been exceeded; and (b) diagnosed that the Service Degradation is due to a failure in the IP Backbone Core or the access circuit (as applicable):

Service Degradation type	Service Credit per Customer Site (% of the monthly port Charge for the affected Customer Site pro-rated to Incident duration)
IP Backbone Core Round Trip Delay, Jitter or Packet Loss	20%

- (b) A Service Credit cap of 20% of the monthly recurring port Charge for an affected Customer Site applies to Jitter, Packet Loss and Round Trip Delay Service Credits, in aggregate per Monthly Measurement Period.

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PoP Tiers & SISA Bands

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Each Customer Site is classified into one of the following classes:

Site classification	Topology description	Applicable access technologies	
		Primary	Backup/Secondary
Business Basic	Single access.	ADSL / VDSL / FTTP	N/A
Business Standard	Single access with a back-up (active or passive). Single or dual Customer Edge ("CE") routers (where advised). The backup is connected to a different Provider Edge ("PE") router than the primary service wherever possible.	ADSL / VDSL / FTTP	ADSL / VDSL / FTTP / SISA / VSAT / MDA
Corporate Basic	Single access. Optional secondary access to same PoP.	Ethernet / EFM / leased line	N/A
Corporate Standard	Single access with a backup (active or passive). Single or Dual CE router (where advised). The backup is connected to different PE router wherever possible.	Ethernet / EFM / leased line	ADSL / VDSL / FTTP / VSAT / SISA / MDA
Corporate Core	Dual CE routers; or Cloud Provider Demarcation Point (Cloud Connect). Dual Access/PoP. Dual building entry points.	Ethernet / leased line	Ethernet / leased line
Corporate Core Plus (Only applies to PoP Tier 1&2)	Dual CE routers. Dual Access/PoP with 5 metre separacy. Separate building entry points.	Ethernet / leased line	Ethernet / leased line
SISA IPSec Only	Gateway for termination of regional SISA IPSec traffic.	N/A	N/A
SISA Business Basic	Single access SISA.	SISA Broadband Access (ADSL, VDSL, FTTP)	N/A

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PoP Tiers & SISA Bands

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SISA Business Standard	Single access SISA with two IPSec Tunnels to separate SISA Gateways.	SISA Broadband Access (ADSL, VDSL, FTTP)	2nd IPSec tunnel to separate SISA Gateway
SISA Corporate Basic	Single access SISA connection.	SISA Dedicated Access (Ethernet, EFM, Leased Line)	N/A

PoP Tiers: The PoP tiers include the locations, service availability tier and incident resolution time tier in the table below:

PoP Country	PoP Location	Region	Service availability tier	Incident resolution tier
Angola	Luanda	Africa	5	5
Argentina	Buenos Aires	LATAM	2	2
Australia	Adelaide	APAC	1	1
Australia	Brisbane	APAC	1	1
Australia	Melbourne	APAC	1	1
Australia	Perth	APAC	1	1
Australia	Sydney	APAC	1	1
Austria	Vienna	Europe	1	1
Bahrain	Manama	Middle East	3	3
Belgium	Brussels	Europe	1	1
Botswana	Gaborone	Africa	5	4
Brazil	Rio de Janeiro	LATAM	2	2
Brazil	Sao Paulo	LATAM	3	2
Bulgaria	Sofia	Europe	3	3
Cameroon	Douala	Africa	5	5
Canada	Montreal	US	1	1
Canada	Toronto	US	1	1
China	Beijing	APAC	1	1
China	Guangzhou	APAC	1	1
China	Shanghai	APAC	1	1
Cote D'Ivoire	Abidjan	Africa	5	5
Czech Republic	Prague	Europe	1	1
Denmark	Copenhagen	Europe	1	1
Djibouti	Djibouti	Africa	5	5
DRC	Kinshasa	Africa	5	4
DRC	Lubumbashi	Africa	5	4
Egypt	Cairo	Africa	3	3
Equatorial Guinea	Malabo	Africa	5	5
Ethiopia	Addis Ababa	Africa	5	5
Finland	Helsinki	Europe	1	1
France	Marseille	Europe	1	1
France	Paris	Europe	1	1
Germany	Dusseldorf	Europe	1	1
Germany	Frankfurt	Europe	1	1
Germany	Hamburg	Europe	1	1
Ghana	Accra	Africa	5	4
Greece	Athens	Europe	1	1
Hong Kong	Hong Kong	APAC	1	1
Hungary	Budapest	Europe	1	1
India	Bangalore	APAC	2	2
India	Chennai	APAC	2	2
India	Delhi	APAC	2	2
India	Mumbai	APAC	2	2
India	Pune	APAC	2	2
India	Gurgaon	APAC	3	1
India	Ahmadabad	APAC	3	1
India	Thane	APAC	3	1
India	Noida	APAC	3	1
India	Chandigarh	APAC	3	1
India	Coimbatore	APAC	3	1
Indonesia	Jakarta	APAC	3	3
Ireland	Armagh	Europe	1	1
Ireland	Dublin	Europe	1	1
Ireland	Lisburn	Europe	1	1
Ireland	London Derry	Europe	1	1
Ireland	Omagh	Europe	1	1
Ireland	Portadown	Europe	1	1
Ireland	Strabane	Europe	1	1
Israel	Rosh Ha'Ayin City	Europe	1	3
Italy	Milan	Europe	1	1
Japan	Osaka	APAC	1	1
Japan	Tokyo	APAC	1	1
Kenya	Mombasa	Africa	5	4
Kenya	Nairobi	Africa	5	4
Kuwait	Kuwait	Middle East	1	1
Liberia	Monrovia	Africa	5	5
Madagascar	Antananarivo	Africa	5	5
Malawi	Blantyre	Africa	5	5
Malaysia	Kuala Lumpur	APAC	2	2
Mauritius	Ebene	Africa	5	5
Mexico	Monterrey	Americas	3	2
Mexico	Mexico City	Americas	3	2
Morocco	Rabat	Africa	3	3
Mozambique	Maputo	Africa	5	5
Namibia	Windhoek	Africa	5	5
Netherlands	Amsterdam	Europe	1	1
New Zealand	Auckland	APAC	2	1
Nigeria	Lagos	Africa	5	5
Norway	Oslo	Europe	1	1
Oman	Wattayah	Middle East	4	4
Philippines	Manila	APAC	2	2
Poland	Warsaw	Europe	1	1
Portugal	Lisbon	Europe	1	1
Portugal	Porto	Europe	2	1
Russia	Moscow	Europe	2	2
Romania	Bucharest	Europe	3	3
Rwanda	Kigali	Africa	5	5
Senegal	Dakar	Africa	5	5
Sierra Leone	Freetown	Africa	5	5
Singapore	Singapore	APAC	1	1
Spain	Barcelona	Europe	1	1
Spain	Madrid	Europe	1	1
Swaziland	Mbabane	Africa	5	5
Sweden	Stockholm	Europe	1	1
Switzerland	Zurich	Europe	1	1
Taiwan	Taipei	APAC	3	1
Tanzania	Dar Es Salaam	Africa	5	2
Thailand	Bangkok	APAC	2	2
Thailand	Nonthaburi	APAC	2	2
Turkey	Istanbul	Europe	2	2
UAE	Abu Dhabi	Middle East	4	4
UAE	Dubai	Middle East	4	4
Uganda	Kampala	Africa	5	4
Ukraine	Kiev	Europe	1	1
UK	Birmingham	Europe	1	1
UK	Bracknell	Europe	1	1
UK	Bristol	Europe	1	1
UK	Edinburgh	Europe	1	1
UK	Glasgow	Europe	1	1
UK	Leeds	Europe	1	1
UK	London	Europe	1	1
UK	Manchester	Europe	1	1
UK	Swindon	Europe	1	1
USA	Atlanta	US	1	1
USA	Boston	US	1	1
USA	Charlotte	US	1	1
USA	Chicago	US	1	1
USA	Dallas	US	1	1
USA	Denver	US	1	1
USA	El Segundo	US	1	1
USA	Houston	US	1	1
USA	Jacksonville	US	1	1
USA	Los Angeles	US	1	1
USA	Memphis	US	1	1
USA	Miami	US	1	1
USA	New York	US	1	1
USA	Phoenix	US	1	1
USA	Portland	US	1	1
USA	San Francisco	US	1	1
USA	San Jose	US	1	1
USA	Seattle	US	1	1
USA	Washington D.C	US	1	1
Vietnam	Hanoi	APAC	3	1
Vietnam	Ho Chi Minh city	APAC	3	1
Zambia	Lusaka	Africa	5	5

IP-VPN Service



PoP Tiers & SISA Bands

Enterprise Customers

India	Jaipur	APAC	3	1	South Africa	Johannesburg	Africa	5	2					
India	Vadodara	APAC	3	1	South Korea	Seoul	APAC	1	1					



PoP Tiers & SISA Bands

Enterprise Customers

SISA Bands: For the purposes of the Agreement, the SISA Bands shall include the locations in the tables below:

A	Austria, Belgium, Bulgaria, Denmark, Finland, Germany, Hong Kong, Japan, Netherlands, Norway, Singapore, South Korea, Sweden, Switzerland, UK
B	Albania, Algeria, Andorra, Australia, Azerbaijan, Bahrain, Bosnia and Herzegovina, Cambodia, Cameroon, Canada, China, Costa Rica, Croatia, Czech Republic, Ecuador, Egypt, El Salvador, Estonia, France, Guatemala, Honduras, Hungary, Iceland, Ireland, Israel, Italy, Jordan, Kuwait, Latvia, Lebanon, Lithuania, Luxembourg, Macedonia, Malaysia, Malta, Moldova, Monaco, Morocco, Nicaragua, Oman, Panama, Portugal, Qatar, Romania, Russia, San Marino, Saudi Arabia, Serbia, Slovakia, Slovenia, Spain, Taiwan, Tunisia, Turkey, United Arab Emirates, US, US (Alaska), US (Hawaii), Venezuela, Vietnam.
C	Afghanistan, Angola, Anguilla, Antigua and Barbuda, Argentina, Armenia, Bahamas, Bangladesh, Barbados, Belarus, Bermuda, Bhutan, Botswana, Brunei, Darussalam, Burkina Faso, Burundi, Cape Verde, Cayman Islands, Chile, Colombia, Congo, Cyprus, Dominica, Ethiopia, Faroe Islands, Fiji, Gabon, Georgia, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guam, Guernsey, Haiti, India, Indonesia, Iran, Iraq, Isle of Man, Ivory Coast, Jamaica, Jersey, Kazakhstan, Kenya, Kyrgyzstan, Laos, Libya, Liechtenstein, Macau, Madagascar, Malawi, Maldives, Mali, Martinique, Mongolia, Montenegro, Montserrat, Mozambique, Namibia, Netherlands Antilles (Aruba), Netherlands Antilles (Bonaire), Netherlands Antilles (Curacao), Netherlands Antilles (St. Maarten), New Zealand, Nigeria, Pakistan, Palestine, Peru, Philippines, Poland, Puerto Rico, Reunion, Rwanda, Senegal, Serbia (Kosovo), Seychelles, South Africa, Sri Lanka, Sudan, Syria, Tajikistan, Tanzania, Thailand, Uganda, Ukraine, Uruguay, Uzbekistan, Yemen.
D	American Samoa, Belize, Benin, Bolivia, Brasil, Central African Republic, Chad, Congo, Dem. Rep. (former Zaire), Cuba, Djibouti, Dominican Republic, East Timor, Equatorial Guinea, Eritrea, French Guiana, French Polynesia, Gambia, Guinea, Guinea-Bissau, Guyana, Liberia, Mauritania, Mauritius, Mexico, Myanmar, Nepal, New Caledonia, Niger, Northern Mariana Islands, Palau, Papua New Guinea, Paraguay, Saint Barthélemy, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sierra Leone, Solomon Islands, South Sudan, Suriname, Swaziland, Togo, Trinidad and Tobago, Turks and Caicos Islands, Virgin Islands (British), Virgin Islands (U.S.), Zambia, Zimbabwe

The locations set out in these schedules are indicative only and may be updated from time to time. Vodafone will confirm availability in the Order.



Extended Access Country Groups

Extended Access Group: 1		
Country	Region	Carrier
Jordan	Middle East	Batelco
Kuwait	Middle East	Batelco
Qatar	Middle East	Batelco
Saudi Arabia	Middle East	Batelco
Kuwait	Middle East	Bharti Airtel
Namibia	Africa	Bharti Airtel
China	Asia	China Telecom
China	Asia	China Unicom
China	Asia	CITIC Telecom CPC *
Taiwan	Asia	CITIC Telecom CPC
Cambodia	Asia	FPT
Laos	Asia	FPT
Myanmar	Asia	FPT
Vietnam	Asia	FPT
Argentina	Central & S America	Neutrona (IFX)
Bolivia	Central & S America	Neutrona (IFX)
Brazil	Central & S America	Neutrona (IFX)
Chile	Central & S America	Neutrona (IFX)
Colombia	Central & S America	Neutrona (IFX)
Ecuador	Central & S America	Neutrona (IFX)
Guatemala	Central & S America	Neutrona (IFX)
Mexico	Central & S America	Neutrona (IFX)
Paraguay	Central & S America	Neutrona (IFX)
Perú	Central & S America	Neutrona (IFX)
Venezuela	Central & S America	Neutrona (IFX)
Bangladesh	South Asia	PCCW
Botswana	Africa	PCCW
Cook Islands	Pacific	PCCW
Fiji	Pacific	PCCW
Ghana	Africa	PCCW
Kenya	Africa	PCCW
Kiribati	Pacific	PCCW
Mauritius	Africa	PCCW
Mozambique	Africa	PCCW
Namibia	Africa	PCCW
New Caledonia	Pacific	PCCW
Nigeria	Africa	PCCW
Niue	Pacific	PCCW
Norfolk	Pacific	PCCW
Pakistan	South Asia	PCCW
Papua New Guinea	Pacific	PCCW
Samoa	Pacific	PCCW
Solomon Island	Pacific	PCCW
South Africa	Africa	PCCW
Sri Lanka	South Asia	PCCW
Tanzania	Africa	PCCW
Tonga	Pacific	PCCW
Uganda	Africa	PCCW
Vanuatu	Pacific	PCCW
Zambia	Africa	PCCW

IP-VPN Service

Extended Access Country Groups



Zimbabwe	Africa	PCCW
Japan	Asia	SoftBank Telecom
Argentina	Central & S America	Telecom Italia Sparkle (TIS)
Bolivia	Central & S America	Telecom Italia Sparkle (TIS)
Brazil	Central & S America	Telecom Italia Sparkle (TIS)
Chile	Central & S America	Telecom Italia Sparkle (TIS)
Colombia	Central & S America	Telecom Italia Sparkle (TIS)
Ecuador	Central & S America	Telecom Italia Sparkle (TIS)
Guatemala	Central & S America	Telecom Italia Sparkle (TIS)
Mexico	Central & S America	Telecom Italia Sparkle (TIS)
Paraguay	Central & S America	Telecom Italia Sparkle (TIS)
Perú	Central & S America	Telecom Italia Sparkle (TIS)
Venezuela	Central & S America	Telecom Italia Sparkle (TIS)
Italy	Europe	Telecom Italia Sparkle (TIS)
Greece	Europe	Telecom Italia Sparkle (TIS)
Malta	Europe	Telecom Italia Sparkle (TIS)
Malaysia	Asia	Telekom Malaysia
Canada	North America	Telus

*CITIC is available to existing CITIC customers only.

Extended Access Group: 2		
Country	Region	Carrier
Nigeria	Africa	Bharti Airtel
Saudi Arabia	Middle East	Bharti Airtel
South Africa	Africa	Bharti Airtel
Antigua	Caribbean	C&W Communications
Barbados	Caribbean	C&W Communications
Bermuda	North America	C&W Communications
British Virgin Islands	Caribbean	C&W Communications
Caribbean	North America	C&W Communications
Cayman Islands	Caribbean	C&W Communications
Dominica	Caribbean	C&W Communications
Grenada	Caribbean	C&W Communications
Jamaica	Caribbean	C&W Communications
St. Kitts	Caribbean	C&W Communications
St. Lucia	Caribbean	C&W Communications
St. Vincent	Caribbean	C&W Communications
Anguilla	Caribbean	C&W Communications
Montserrat	Caribbean	C&W Communications
Turks & Caicos	Caribbean	C&W Communications
Indonesia	Asia	TELIN Singapore
Argentina	Central & S America	TIWS
Bolivia	Central & S America	TIWS
Brazil	Central & S America	TIWS
Chile	Central & S America	TIWS
Colombia	Central & S America	TIWS
Ecuador	Central & S America	TIWS
Guatemala	Central & S America	TIWS
Mexico	Central & S America	TIWS
Paraguay	Central & S America	TIWS
Perú	Central & S America	TIWS
Venezuela	Central & S America	TIWS

IP-VPN Service

Extended Access Country Groups



Angola	Africa	Vodacom Business Africa
Botswana	Africa	Vodacom Business Africa
Cameroon	Africa	Vodacom Business Africa
Cote D'Ivoire (Republic of)	Africa	Vodacom Business Africa
Djibouti	Africa	Vodacom Business Africa
DRC	Africa	Vodacom Business Africa
DRC	Africa	Vodacom Business Africa
Equatorial Guinea	Africa	Vodacom Business Africa
Ghana	Africa	Vodacom Business Africa
Kenya	Africa	Vodacom Business Africa
Kenya	Africa	Vodacom Business Africa
Lesotho	Africa	Vodacom Business Africa
Liberia	Africa	Vodacom Business Africa
Madagascar	Africa	Vodacom Business Africa
Malawi	Africa	Vodacom Business Africa
Mauritius	Africa	Vodacom Business Africa
Mozambique	Africa	Vodacom Business Africa
Namibia	Africa	Vodacom Business Africa
Nigeria	Africa	Vodacom Business Africa
Rwanda	Africa	Vodacom Business Africa
Senegal	Africa	Vodacom Business Africa
South Africa	Africa	Vodacom Business Africa
South Africa	Africa	Vodacom Business Africa
South Africa	Africa	Vodacom Business Africa
South Africa	Africa	Vodacom Business Africa
South Africa	Africa	Vodacom Business Africa
Swaziland	Africa	Vodacom Business Africa
Tanzania	Africa	Vodacom Business Africa
Tanzania	Africa	Vodacom Business Africa
Uganda	Africa	Vodacom Business Africa
Zambia	Africa	Vodacom Business Africa
Zimbabwe	Africa	Vodacom Business Africa
Cameroon	Africa	Vodacom Business Africa
Tanzania	Africa	Vodacom Business Africa
Ghana	Africa	Vodacom Business Africa
India	India	Vodafone India Limited (VIL)
Qatar	Middle East	Vodafone Qatar
Qatar	Middle East	Vodafone Qatar
Qatar	Middle East	Vodafone Qatar

Extended Access Group: 3		
Country	Region	Carrier
Angola	Africa	Internet Solutions
Ethiopia	Africa	Internet Solutions
Botswana	Africa	Internet Solutions
Ghana	Africa	Internet Solutions
Kenya	Africa	Internet Solutions
Mauritius	Africa	Internet Solutions
Mozambique	Africa	Internet Solutions
Namibia	Africa	Internet Solutions
Nigeria	Africa	Internet Solutions

IP-VPN Service

Extended Access Country Groups



South Africa	Africa	Internet Solutions
Tanzania	Africa	Internet Solutions
Uganda	Africa	Internet Solutions
Zambia	Africa	Internet Solutions
Zimbabwe	Africa	Internet Solutions
Guam	Pacific	PCCW
Nepal	South Asia	PCCW
Bangladesh	South Asia	TATA
Nepal	South Asia	TATA
Pakistan	MENA	TATA
Sri Lanka	South Asia	TATA
Kuwait	Middle East	Tawasul
Oman	Middle East	Tawasul
Qatar	Middle East	Tawasul
Saudi Arabia	Middle East	Tawasul
Algeria	Africa	Telecom Italia Sparkle (TIS)
Bosnia	Europe	Telecom Italia Sparkle (TIS)
Croatia	Europe	Telecom Italia Sparkle (TIS)
Cyprus	Europe	Telecom Italia Sparkle (TIS)
Egypt	Africa	Telecom Italia Sparkle (TIS)
KOSOVO	Europe	Telecom Italia Sparkle (TIS)
Libya	Africa	Telecom Italia Sparkle (TIS)
Montenegro	Europe	Telecom Italia Sparkle (TIS)
Morocco	Africa	Telecom Italia Sparkle (TIS)
Serbia	Europe	Telecom Italia Sparkle (TIS)
Slovenia	Europe	Telecom Italia Sparkle (TIS)
Tunisia	Africa	Telecom Italia Sparkle (TIS)
Indonesia	Asia	Telekom Malaysia
Sri Lanka	South Asia	Telekom Malaysia

Extended Access Group: Reasonable Endeavours		
Country	Region	Carrier
Tanzania	Africa	Bharti Airtel
UAE	Middle East	Bharti Airtel
Uganda	Africa	Bharti Airtel
Zambia	Africa	Bharti Airtel
Zimbabwe	Africa	Bharti Airtel
Algeria	Africa	Orange Business Services (France Telecom International)
Guinea	Africa	Orange Business Services (France Telecom International)
Mauritania	Africa	Orange Business Services (France Telecom International)
Ethiopia	Africa	PCCW
Egypt	Africa	Vodafone Egypt

IP-VPN Service



Round Trip Delay Targets

Vodafone Business Customers

Row Labels	Malaysia - Kuala Lumpur	Mexico - Mexico City	Mexico - Monterrey	Morocco - Rabat	Netherlands - Amsterdam	New Zealand - Auckland	Oman - Wattaya	Philippines - Manila	Poland - Warsaw	Romania - Bucharest	Russia - Moscow	Singapore - Singapore	Spain - Barcelona	Spain - Madrid	Sweden - Stockholm	Taiwan - Taipei	Thailand - Bangkok	Thailand - Nonthaburi	Turkey - Istanbul	UAE - Dubai	UK - Bracknell	UK - London	USA - Chicago	USA - Dallas	USA - Los Angeles	USA - New York	USA - San Francisco	Vietnam - Hanoi	Vietnam - Ho Chi Minh	
Argentina - Buenos Aires	382	254	210	270	224	333	333	380	242	260	268	373	247	239	240	356	411	411		342	220	214	159	176	208	140	206	381	388	
Australia - Melbourne	99	211	257	326	281	39	161	121	296		319	90	293	284	293	161	120	120		171	276	273	215	194	162	231	171	147	140	
Australia - Perth	61	250	297	287	242	78	122	82	257		279	51	253	245	254	102	80	81		131	238	234	254	233	201	270	210	99	99	
Australia - Sydney	112	200	248	330	278	27	174	132	300		315	103	310	296	303	149	132	133		183	281	277	203	183	150	219	159	136	143	
Bahrain - Bahrain	102	324	362	201	139	214	26	123	155	172	183	93	159	158	153	146	121	122		35	156	151	304	308	277	213	286	143	142	
Belgium - Brussels	194	196	149	67	13	275	126	203	35	52	57	186	36	27	35	213	221	221		122	19	15	110	118	150	90	158	205	213	
Brazil - Rio de Janeiro	374	233	166	250	207	312	315	357	223	241	251	370	228	221	222	358	392	393		324	197	189	140	155	186	121	194	359	366	
Brazil - Sao Paulo	366	226	157	266	221	304	335	349	233	260	268	364	237	236	231	353	383	383	265	333	217	211	154	147	179	130	187	353	359	
Canada - Toronto	236	112	88	152	106	191		235		142	150	226	128	122	122	209	268	268		224	102	97	12	32	65	21	59	239	245	
China - Beijing	79	218	265	273	219	182	148	61	235		256	76	241	240	234	90	97	97		156	222	218	206	201	170	225	159	64	74	
China - GuangZhou	41	209	255	242	187	143	109	23	199		227	38	203	204	197	29	60	61		118	194	189	214	192	161	229	169	26	34	
China - Shanghai	66	199	245	253	192	168	136	48	215		236	65	224	219	217	70	85	86		143	203	198	186	181	149	205	139	51	59	
Czech Republic - Prague	210	208	160	77	18	287	129	203	33	48	61	202	43	43	36	212	236	234		139	28	24	117	130	162	97	169	207	214	
Denmark - Copenhagen	208	206	158	75	16	285	128	202	32	47	59	200	41	41	24	210	236	232		137	26	22	115	127	159	95	167	205	213	
Egypt - Cairo	234	238	189	110	58	317	165	240	74	91	102	227	78	68	72	251	260	260		163	61	57	152	159	191	132	199	243	249	
France - Marseille	198	201	153	74	24	280	132	207	41	59	66	190	40	31	39	215	225	225		126	24	21	120	123	155	100	166	210	217	
France - Paris	188	190	143	64	13	270	121	199	34	52	57	182	30	21	31	207	216	216		116	14	11	104	113	145	85	153	202	209	
Germany - Dusseldorf	200	197	149	67	7	276	120	194	22	38	50	192	33	34	26	202	228	224		129	17	13	107	119	151	88	158	197	205	
Germany - Frankfurt	196	199	153	69	11	280	115	190	25	43	54	191	29	30	22	198	224	220		125	21	17	103	122	154	84	150	193	201	
Germany - Hamburg	204	202	153	71	10	281	128	202	32	46	55	197	41	37	34	211	231	228		137	22	17	112	123	155	93	163	203	210	
Hong Kong - Hong Kong	38	207	253	239	184	140	108	20	196		225	36	201	201	194	26	57	58		119	192	186	210	189	157	226	166	23	31	
Hungary - Budapest	210	213	165	82	23	292	130	204	39	56	67	202	43	44	37	212	238	234		139	34	30	117	135	167	98	164	207	215	
India - Bangalore	72	281	299	198	140	183	127	95	155	171	185	63	159	158	153	120	101	102		134	147	143	243	263	233	216	229	117	109	
India - Chennai	48	272	318	199	142	157	111	67	157	174	185	39	162	158	156	95	65	68		120	150	146	250	256	224	216	211	92	85	
India - Delhi	115	333	294	213	154	223	172	134	170	187	197	105	174	172	168	158	139	139		181	163	159	248	289	286	228	278	156	152	
India - Mumbai	74	291	254	175	117	183	135	93	133	150	160	64	137	132	131	118	93	93		144	124	121	210	226	248	191	232	116	111	
Indonesia - Jakarta	24	244	295	251	207	138	88	48	221		244	16	218	209	219	73	46	46		98	202	198	229	233	200	248	182	70	67	
Ireland - Dublin	186	184	169	70	18	274	145	211	41	58	54	180	51	40	45	215	212	212		153	13	11	96	117	148	86	146	N/a	N/a	
Israel - Rosh Haayin	263	259	214	129	80	339	179	255	87	105	120	255	92	86	268	286	284		188	79	77	172	181	214	152	220	257	269	269	
Italy - Milan	204	207	160	76	17	287	124	198	33	51	61	196	37	38	31	207	232	228		133	28	24	111	129	161	92	158	201	210	
Japan - Osaka	86	156	203	226	165	149	149	78	188		210	77	198	193	191	50	95	101		159	176	172	160	140	107	176	115	64	72	
Japan - Tokyo	81	163	209	219	159	142	142	74	181		203	71	191	186	185	47	100	101	208		151	170	165	151	145	113	170	104	68	98
Korea - Seoul	74	206	252	259	206	176	142	57	222		243	73	235	226	225	78	93	94		151	210	206	193	188	156	213	147	59	67	
Kuwait - Kuwait	105	326	290	197	143	218	29	128	158	176	186	97	162	155	157	149	127	127		38	148	144	308	312	281	217	292	147	145	
Malaysia - Johor Bahru	14	230	279	241	190	126		35			234	5	208	199	208	58	34	34		85	192	188	219	215	182	243	193	55	57	
Malaysia - Kuala Lumpur	3	240	287	248	204	135	85	45	218		241	13	216	206	216	60	45	45		94	199	196	227	224	192	249	200	58	61	
Mexico - Mexico City	240		78	240	195	177	303	225	217	232	239	235	218	209	219	227	260	260		312	191	187	103	83	52	118	139	226	230	
Mexico - Monterrey	287	78		192	146	224	271	270	168	183	190	282	171	161	171	274	303	304		267	142	138	89	68	100	70	107	272	279	
Morocco - Rabat	248	240	192		66	321	181	256	86	102	108	241	94	81	88	264	275	275		176	62	58	153	162	194	133	203	258	266	
Netherlands - Amsterdam	204	195	146	66	3	281	122	203	26	46	47	196	36	31	29	209	231	228		137	14	10	107	116	148	87	156	203	211	
New Zealand - Auckland	135	177	224	321	281	4	197	157	296		317	126	297	288	298	174	155	156		206	270	265	182	161	129	197	138	160	168	
Oman - Wattaya	85	303	271	181	122	197		106		155	166	76	142	139	135	129	104	105		19	132	128	287	291	260	196	269	126	125	
Philippines - Manila	45	225	270	256	203	157	106	3	212		241	35	217	217	211	44	65	65		116	208	204	226	206	174	243	183	40	52	
Poland - Warsaw	218	217	168	86	26	296		212		57	70	210	51	51	44	217	246	242		147	37	33	125	138	170	106	174	215	223	
Romania - Bucharest		232	183	102	46		155		57		85		69	69	62						52	48	143	153	185	123	193			
Russia - Moscow	241	239	190	108	47	317	166	241	70	85		233	79	74	73	248	268	265		175	58	56	151	160	192	131	199	243	251	
Singapore - Singapore	13	233	282	241	196	126	76	35	210		233	4	207	198	208	60	34	34		85	191	188	217	221	189	242	195	57	53	
Spain - Barcelona	216	218	171	94	36	297	142	217	51	69	79	207		13	49	225	243	240		151	42	38	130	140	172	110	176	219	227	
Spain - Madrid	206	209	161	81	31	288	139	217	51	69	74	198	13	2	49	225	234	234		134	32	29	123	131	163	102	171	220	227	
Sweden - Stockholm	216	219	171	88	29	298	135	211	44	62	73	208	49	49	2	218	244	240		145	39	36	123	141	172	103	170	213	220	
Taiwan - Taipei	60	227	274	264	209	174	129	44	217		248	60	225	225	218	3	79	80		137	215	210	200	212	180	170	171	46	53	
Thailand - Bangkok	45	260	303	275	231	155	104	6																						

IP-VPN Service

Round Trip Delay Targets



Vodafone Business Customers

IP Backbone Core RTD Targets in Milliseconds (ms) – Africa:

RTD Matrix	Angola	Botswana	Ivory Coast	Cameroon	Djibouti	DRC	Ghana	Equatorial Guinea	Kenya	Lesotho	Mauritius	Madagascar	Mozambique	South Africa	Malawi	Namibia	Nigeria	Senegal	Swaziland	Tanzania	Uganda	Zambia	Zimbabwe	UK
Angola		90	270	390	360	270	270	360	255	225	140	150	95	80	145	120	220	290	130	250	270	110	90	170
Botswana			310	380	190	130	300	400	90	40	70	85	40	20	100	60	120	330	80	75	105	55	45	210
Ivory Coast				280	390	310	220	300	305	315	350	365	330	300	350	325	220	230	370	280	300	340	320	110
Cameroon					460	390	130	370	375	385	410	410	380	370	420	395	150	300	420	340	390	390	380	180
Djibouti						380	390	510	115	190	230	255	160	175	230	225	335	440	230	120	130	215	195	325
DRC							325	410	280	140	160	170	125	125	220	155	315	340	160	340	310	170	145	220
Ghana								310	240	230	270	280	245	125	270	260	30	240	265	290	255	155	235	115
Equatorial Guinea									400	410	450	460	440	400	450	420	310	325	450	395	415	430	410	200
Kenya										90	130	135	60	75	170	125	230	335	125	30	30	120	100	220
Lesotho											70	80	45	30	110	65	120	335	105	75	110	60	45	210
Mauritius												120	75	55	140	95	150	375	120	115	145	95	70	250
Madagascar													130	95	155	160	210	440	180	150	175	145	105	260
Mozambique														40	95	70	125	370	80	65	80	60	45	270
South Africa															70	55	105	320	50	65	95	50	30	195
Malawi																115	200	405	155	135	165	105	90	275
Namibia																	130	120	120	140	85	60	220	
Nigeria																		240	150	280	270	140	120	115
Senegal																			380	325	340	350	340	130
Swaziland																				120	175	90	105	270
Tanzania																					45	105	80	200
Uganda																						130	115	225
Zambia																							60	240
Zimbabwe																								215
UK																								

IP Backbone Core RTD Targets in Milliseconds (ms) – UK:

Row Labels	UK - Aberdeen	UK - Addlestone	UK - Bedford	UK - Birmingham	UK - Bracknell	UK - Brighton	UK - Bristol	UK - Edinburgh	UK - Glasgow	UK - Inverness	UK - Leeds	UK - Livingston	UK - London	UK - Manchester	UK - Milton Keynes	UK - Newcastle	UK - Sheffield	UK - Swindon	UK - Tingley	UK - Warrington	UK - Watford
UK - Aberdeen	3	24	20	18	24	23	29	7	22	14	28	10	23	16	24	18	17	19	16	15	19
UK - Addlestone	24		16	10	13	16	16	19	23	22	14	18	15	13	20	16	13	12	13	12	
UK - Bedford	20	16		10	8	6	14	11	20	18	20	12	8	9	7	9	8	7	8	8	3
UK - Birmingham	18	10	10	4	7	10	10	12	20	16	14	12	8	6	15	9	7	6	6	6	8
UK - Bracknell	24	13	8	7	3	7	10	16	17	22	17	17	5	13	12	15	13	4	10	11	5
UK - Brighton	23	16	6	10	7		13	15	17	22	20	18	7	12	11	13	12	7	9	11	4
UK - Bristol	29	16	14	10	10	13	10	20	23	24	20	20	11	17	18	17	16	9	14	18	9
UK - Edinburgh	7	19	11	12	16	15	20		13	9	18	3	17	10	16	10	8	14	7	10	11
UK - Glasgow	22	23	20	20	17	17	23	13	16	20	27	17	18	11	23	14	13	17	11	10	14
UK - Inverness	14	22	18	16	22	22	24	9	20		26	9	21	14	22	16	15	17	14	14	18
UK - Leeds	28	14	20	14	17	20	20	18	27	26	18	22	18	17	24	19	17	16	16	16	7
UK - Livingston	10	18	12	12	17	18	20	3	17	9	22		17	10	16	10	9	13	10	10	14
UK - London	23	15	8	8	5	7	11	17	18	21	18	17	6	11	11	14	13	6	11	11	3
UK - Manchester	16	13	9	6	13	12	17	10	11	14	17	10	11	3	13	7	6	8	4	4	8
UK - Milton Keynes	24	20	7	15	12	11	18	16	23	22	24	16	11	13		14	12	11	12	13	7
UK - Newcastle	18	16	9	9	15	13	17	10	14	16	19	10	14	7	14		6	11	6	7	9
UK - Sheffield	17	13	8	7	13	12	16	8	13	15	17	9	13	6	12	6		9	3	5	7
UK - Swindon	19	12	7	6	4	7	9	14	17	17	16	13	6	8	11	11	9		8	7	5
UK - Tingley	16	13	8	6	10	9	14	7	11	14	16	10	11	4	12	6	3	8		4	6
UK - Warrington	15	12	8	6	11	11	18	10	10	14	16	10	11	4	13	7	5	7	4		7
UK - Watford	19		3	8	5	4	9	11	14	18	7	14	3	8	7	9	7	5	6	7	

IP-VPN Service

Round Trip Delay Targets

Vodafone Business Customers



Section 2 – Round Trip Delay Service Level Targets – Extended Access

The following targets are indicative only.

Round Trip Delays in Milliseconds (ms) for Cable & Wireless Communications (Caribbean):

	Antigua	Barbados	BVI	Cayman	Dominica	Grenada	Jamaica	St. Kitts	St. Lucia	Miami NNI	NY NNI
Antigua		8	5	52	3	12	59	8	5	28	58
Barbados	13		13	60	8	17	68	17	3	36	66
BVI	5	13		47	8	17	53	4	10	23	53
Cayman	52	60	47		55	64	54	50	57	23	53
Dominica	3	11	8	55		9	8	11	7	31	61
Grenada	12	20	17	64	9		63	20	8	40	70
Jamaica	58	68	53	8	63	70		57	63	30	60
St. Kitts	8	17	3	50	11	20	57		13	27	56
St. Lucia	5	13	10	57	8	7	63	13		33	63
Miami NNI	28	37	24	24	32	41	32	28	33		30
NY NNI	59	65	53	54	62	71	63	56	63	30	

Round Trip Delays in Milliseconds (ms) for Telefonica (Latin America):

	Bogota	Buenos Aires	Lima	Miami NNI	Mexico	Sao Paulo	Chile	London NNI
Bogota		265	184	108	166	264	237	270
Buenos Aires	265		110	187	261	50	57	332
Lima	184	110		101	171	165	59	249
Miami NNI	108	187	101		73	163	144	59
Mexico	166	261	171	73		237	333	188
Sao Paulo	264	50	165	163	237		105	308
Chile	237	57	59	144	333	105		297
London NNI	270	332	249	59	188	308	297	

Round Trip Delay in Milliseconds (ms) for China Telecom (China):

	East China	Central China	West China
East China	120	200	320
Central China	200	200	320
West China	320	320	320



Round Trip Delay Targets

Vodafone Business Customers

Round Trip Delay in Milliseconds (ms) for Telekom (Malaysia):

	Malaysia	Singapore	Indonesia	Hong Kong	Egypt	Bahrain	London	New York	Los Angeles	Sri Lanka
Malaysia		25	40	60	170	170	250	310	250	85
Singapore	25		50	80	180	180	250	310	250	95
Indonesia	40	50		90	200	200	270	340	280	105
Hong Kong	60	80	90		230	230	300	370	270	130
Egypt	170	180	200	230		180	410	480	380	250
Bahrain	170	180	200	230	180		410	480	380	250
London	250	250	270	300	410	410		90	170	300
New York	310	310	340	370	480	480	90		90	370
Los Angeles	250	250	280	270	380	380	170	90		270
Sri Lanka	85	95	105	130	250	250	300	370	270	

Round Trip Delay in Milliseconds (ms) for Batelco (Middle East):

Region	Real time	Mission critical	Standard data
Gulf region	<=35 ms	<=40 ms	<=50 ms
Middle East region	<=45 ms	<=50 ms	<=55 ms

Round Trip Delay in Milliseconds (ms) for other carriers:

Carrier	Countries	Round Trip Delay
Telecom Italia Sparkle (Italy)	Italy	60 ms
Softbank Telecom (Japan)	Intra-Japan	35 ms
Telus (Canada)	Intra-Canada:	70 ms
	Canada-NY & LA NNIs	120ms
Tawasul (Middle East)	Between Kuwait; Oman; Qatar; & Saudi Arabia	60ms

Vodafone will make available to the Customer Extended Access RTD Service Levels for countries not listed in this document upon request.

IP-VPN Service



Extra Service Terms- Mobile Data Access

Vodafone Business Customers

1. Service Term Structure

1.1 These Extra Service Terms form part of the Service Specific Terms for the IP-VPN Service when Customer orders the Vodafone Mobile Data Access Optional Service Element. If there is a conflict between them, these Extra Service Terms will supersede the IP-VPN Service Specific Terms, but only for the Mobile Data Access Optional Service Element.

2. Mobile Data Access – Overview

2.1 Vodafone Mobile Data Access uses 3G or 4G mobile networks to provide access to the IP-VPN Service for private communication. It does not permit voice calls, access to emergency services or internet access.

2.2 Unless otherwise stated, the underlying provider for Mobile Data Access will be Vodafone.

3. Limits on Service

3.1 Vodafone may limit or disconnect the Mobile Data Access Service: (a) upon discovery of fraudulent usage; (b) if Customer misconfigures the Equipment; and (c) if Customer exceeds the Usage Cap defined in the Commercial Terms.

3.2 Mobile Data Access does not provide any Class of Service over the radio access network.

3.3 Due to the constraints of radio communications, Vodafone cannot guarantee that the Mobile Data Access Service will: (a) provide fault free access; (b) be compatible with all devices; (c) provide completely secure communications; or (d) provide a guaranteed assured bandwidth.

4. Service Specific Conditions of Use

4.1 Customer may only use Mobile Data Access as a backup to a Vodafone provided managed terrestrial link.

4.2 Customer may only use the SIMs provided by Vodafone to access Mobile Data Access Service. Vodafone Mobile Data Access SIMS must not be used for any other purpose.

5. Service Levels

5.1 The IP-VPN Service Support and Service Level Agreement does not apply to Mobile Data Access Service. Customer may call the IP-VPN Customer Service Centre for Support Services.

6. Definitions

6.1 The following definitions are applicable to the Services in addition to those set out in the IP-VPN Service Specific Terms:

Mobile Data Access (MDA)	the Optional Service Element that provides VPN connectivity over a mobile network using a mobile access module and a SIM card provided by Vodafone.
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IP-VPN Service



Extra Service Terms- Cloud Connect

Vodafone Business Customers

1. Service Term Structure

- 1.1 These Extra Service Terms form part of the Service Specific Terms for the IP-VPN Service when Customer orders the Cloud Connect Optional Service Element. If there is a conflict between them, these Extra Service Terms will supersede the IP-VPN Service Specific Terms, but only for the Cloud Connect Optional Service Element.

2. Cloud Connect – Overview

- 2.1 Vodafone IP-VPN Cloud Connect provides private connectivity to the Cloud Provider Data Centre directly from the IP-VPN Network rather than from the public internet. Cloud Connect is a managed service, including ordering, support, escalations, and Incident management. Reporting is not included. It provides consistent, committed bandwidth at rates from 50Mbps to 1Gbps allowing Network capacity to scale as required. Vodafone IP-VPN Cloud Connect allows Customer to connect its IP-VPN Network with the following Cloud Providers: Vodafone, Microsoft Azure, and Amazon Web Services.
- 2.2 Cloud Provider, location, bandwidth and Peering type(s) are listed on the Customer High Level Design or Order.

3. Service Specific Conditions of Use

3.1 Conditions of Use:

- (a) Where Customer orders Cloud Connect, Customer shall: (a) enter into a separate agreement with the applicable Cloud Provider; or (b) enter into a separate agreement with Vodafone for Vodafone cloud services. Such agreement shall not form any part of this Agreement. To the maximum extent permitted by Applicable Law, Vodafone excludes all liability for any Cloud Service under this Services Agreement. Customer may only operate one Cloud Provider on a single Customer VRF instance. A change to the VRF instance will incur a new Set-Up Charge.
 - (b) For Cloud Service Access, Customer must: (a) provide Vodafone with the unique Cloud Provider customer identifier and/or service key that Customer obtains from the Cloud Provider; (b) obtain and maintain all necessary permissions from the Cloud Provider (including any service component such as Peering); and (c) get permission from Microsoft if Customer wants access to Office 365 when using Microsoft Azure Cloud Services.
- 3.2 **Peering:** Customer is responsible for supplying private IP addresses to Vodafone for Peering configuration. Private Peering is available with all Third Party Cloud Providers. Vodafone will provide public IP addresses as required.
 - 3.3 **Extended Access Limitation:** Vodafone IP-VPN Cloud Connect Service is not available to Customer Sites using IP-VPN Extended Access, Microsoft Azure Public, Microsoft “Microsoft” Peering, and Amazon Web Services Public Peering. Vodafone must conduct a network assessment, at Customer’s expense, to properly configure Vodafone IP-VPN Cloud Connect to prevent access at Customer Sites using IP-VPN Extended Access when applicable.
 - 3.4 **Amazon IP-VPN Route Limit:** IP-VPN routes advertised by Customer into Amazon Web Services Customer environment are limited to 100. If Customer wants to add more IP-VPN routes after reaching the limit, Customer must request Vodafone to update route summarization for the new routes using the Service Change Request Procedure.
 - 3.5 **Microsoft Express Route Premium Add On:** Customer must notify Vodafone 30 days in advance if Customer intends to use Microsoft Premium Add On so that Vodafone may check and increase the VPN limits as necessary. Incidents caused by Customer using Microsoft Premium Add On before VPN limits have been increased when required are Excluded Events.

4. Service Levels

- 4.1 The IP-VPN Service Levels applies to Vodafone IP-VPN Cloud Connect except as amended below. For the avoidance of doubt, the Service Levels do not apply to any Cloud Service or cloud network equipment.



Extra Service Terms- Cloud Connect

Vodafone Business Customers

- 4.2 **Support Services:** If Customer reports an Incident to both a Third Party Cloud Provider and Vodafone resulting in no Incident found with both the Third Party Cloud Provider and Vodafone, Customer shall co-ordinate a meeting with both Vodafone and the Third Party Cloud Provider to further investigate the Incident.
- 4.3 **Service Availability:** The Percentage Availability of the Vodafone IP-VPN Cloud Connect Service will be measured as the percentage of time the Vodafone IP-VPN Cloud Connect Service is available at each Cloud Provider Demarcation Point in a Monthly Measurement Period. In the calculation and definitions for IP-VPN Service Availability, “Customer Site” is replaced with “Cloud Provider Data Centre” for the Cloud Connect Service only.
- 4.4 **Service Credits**
- (a) **Delay:** Customer is entitled to a Service Credit if the Service Commencement Date of a new connection to a Cloud Provider Data Centre or a Configuration Change to a connection to an existing Cloud Provider Data Centre is delayed beyond the Agreed Delivery Date. In the Service Credits for Delay table and wording below the table, “Customer Site” is replaced with “Cloud Provider Data Centre” for the Cloud Connect Service.
- (b) **Availability:** The Availability Service Credit in the IP-VPN Service Level Agreement is calculated based on a percentage of the monthly recurring port Charge for the Vodafone IP-VPN Cloud Connect connection to the Cloud Provider Data Centre. In the Service Credit table for Availability of IP-VPN Service, “Customer Site” is replaced with “Cloud Provider Data Centre” for the Vodafone IP-VPN Cloud Connect Service.

5. Definitions:

- 5.1 The following definitions are applicable to the Services in addition to those set out in the IP-VPN Service Specific Terms:

Cloud Connect	the Optional Service Element that provides private VPN connectivity between a Customer Site and a Cloud Provider Data Centre rather than through the public internet.
Cloud Provider Data Centre	the Cloud Provider’s data centre location for the provision of Cloud Services to Customer.
Cloud Provider Demarcation Point	the cross-connect in the meet-me room at the Cloud Provider Data Centre.
Cloud Service	the cloud service purchased by Customer from a Cloud Provider under separate agreement
Cloud Providers	Vodafone, Microsoft Azure, and Amazon Web Services.
Peering	shall be defined by the Cloud Provider.
Third Party Cloud Provider	a Cloud Provider other than Vodafone.
Virtual routing and forwarding (VRF)	a technology included in IP (Internet Protocol) network routers that allows multiple instances of a routing table to exist in a router and work simultaneously. This increases functionality by allowing network paths to be segmented without using multiple devices.

IP-VPN Service



Extra Service Terms- Network Based Internet Access, Secure Network Gateway and Secure Remote User Access

Vodafone Business Customers

1. Service Term Structure

1.1 These Extra Service Terms form part of the Service Specific Terms for the IP-VPN Service when Customer orders the Enhanced Network Based Internet Access (“**Enhanced NBIA**”), Secure Network Gateway (“**SNG**”) and/or Secure Remote User Access (“**SRUA**”) Optional Service Elements. If there is a conflict between them, these Extra Service Terms will supersede the IP-VPN Service Specific Terms, but only for the relevant Optional Service Element.

2. Overview

2.1 Enhanced Network Based Internet Access:

- (a) Enhanced NBIA provides Internet Access centrally via a network based internet access gateway to a customer IP-VPN. It allows Customer to aggregate internet access from multiple IP-VPN connected locations to geographically dispersed NBIA gateways, bringing advantages such as deployment of optional but centralised security policy enforcement. Enhanced NBIA is available with symmetric bandwidths ranging from 1Mbps through to 1Gbps. A secondary gateway can be provisioned for geographical diversity if required.
- (b) **Conditions of Use:**
 - (i) Customer’s use of Enhanced NBIA is limited to the following countries at time of contracting. Customer may request an updated list from time to time from account management.

Vodafone Licenced Countries		
Austria	Hong Kong	Portugal
Australia	Hungary	Russia
Belgium	Italy	Singapore
Canada	Ireland (Republic of)	South Korea
Czech Republic	Japan	Spain
Bulgaria	Luxembourg	Sweden
Denmark	Malaysia	Switzerland
Finland	Mexico	Ukraine
France	Netherlands	UK
Germany	Norway	USA

2.2 Secure Network Gateway:

- (a) SNG is ordered with Enhanced NBIA. Customer may order a range of firewall and security features under the Standard and Premium packages set out below. SNG Service includes a network based firewall facility. If ordered, Vodafone will consult with Customer to capture preferred security rules and configuration requirements.
- (i) The following Standard and Premium feature sets are available:

Items	Standard	Premium
Inbound/outbound ruleset	Up to 50	Up to 1000
Application reporting	Yes – SSL Certificate Inspection	Yes - deep cloud app inspection and Full SSL Inspection
Firewall event/logs	6 month retention	12 month retention

IP-VPN Service



Extra Service Terms- Network Based Internet Access, Secure Network Gateway and Secure Remote User Access

Vodafone Business Customers

Reports frequency	weekly/monthly	Daily/weekly/monthly
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- (ii) Additional options for Intrusion Detection and Prevention are set out below:

Items	Standard	Premium
Policy protection	Default	Customisable
Threat detection via SSL	No	Yes
Anomaly based detection	No	Yes - with tuning support
NIDs/NIPs events/logs	6 month retention	12 month retention
Reports frequency	weekly/monthly	Daily/weekly/monthly

(b) **Conditions of Use:**

- (i) Customer shall provide Vodafone with accurate and up to date information relating to the configuration of the policies associated with the firewall throughout the Minimum Term.
- (ii) Vodafone will implement firewall policies in accordance with Customer's specification.
- (iii) Vodafone is not liable for any adverse consequences resulting from outdated or inaccurate policy information provided to Vodafone by Customer.
- (iv) While SNG Service is designed to prevent outsiders from gaining access to the IP-VPN and provides an effective method of monitoring and limiting access, it may not prevent some instances of unauthorised access to the IP-VPN. No system can claim to be completely secure. Vodafone accepts no liability for any adverse consequences to Customer arising as a result of the SNG Service's failure to prevent unauthorised access.

2.3 Secure Remote User Access:

- (a) SRUA allows remote Users to connect more securely to the IP-VPN network over the internet using IP-Sec or SSL encryption. The following options are available to Customer:
- (i) Regular authentication (1 Factor Authentication) based on username/password authentication only; and
 - (ii) Strong authentication (2 Factor Authentication) where each user requires a soft token, SIM based token or Hard Token in addition to username/password for authentication.
 - (iii) Standard or Premium feature sets as set out below:

Features	Standard	Premium
Host Check	No - not available	Yes - optional
SSL VPN	Yes - optional Up to 3 portals	Yes - optional Up to 6 portals
Integration with Customer authentication server	Up to 3 servers	Up to 5 servers
Reporting	Weekly/Monthly Default reports only	Daily/Weekly/Monthly Default and Custom reports
Log Retention	6 months	12 months

(b) **Conditions of Use:**

- (i) Vodafone will provide Customer with the ability to log into a VPN session reporting tool.

IP-VPN Service



Extra Service Terms- Network Based Internet Access, Secure Network Gateway and Secure Remote User Access

Vodafone Business Customers

- (ii) Customer must: (a) regularly check the User sessions; (b) download any required historical records; and (c) notify Vodafone immediately in the event of any unusual or suspicious records. If a PIN or password is compromised, Customer shall immediately disable the account, or reset the PIN or password, using the web interface. If an administrator PIN or password becomes compromised, Customer shall immediately inform Vodafone as set out in clause 3.5 of the General Terms.
- (iii) Only versions of the VPN client provided by Vodafone to Customer must be installed by Customer on a User's computers. If Customer uses a version of the VPN client which has not been provided by Vodafone, Vodafone may stop supplying the Secure Remote User Access Optional Service Element to Customer and Vodafone will not be responsible for support of or Service Levels for SRUA.

3. Service Levels

- 3.1 The IP-VPN Service Levels do not apply to Enhanced NBIA, SNG, & SRUA Service Elements.
- 3.2 The Service Levels set out below apply to Enhanced NBIA, SNG, & SRUA Service Elements. The Service Levels do not apply to Incidents caused by or connected to an Excluded Event.
- 3.3 No Service Credits apply to Enhanced NBIA, SNG, & SRUA Service Levels.
- 3.4 **Support Service for Enhanced NBIA, SNG, & SRUA:**
 - (a) Customer must report Severity Level 1 or 2 Incidents via telephone to the Customer Services Centre; otherwise, the Incident will be downgraded to a Severity Level 3.
 - (b) Severity Levels for Enhanced NBIA, SNG, and SRUA are set out below:

Severity Level	Severity Level definitions
1	A critical fault, resulting in the majority of Users unable to use the Service.
2	A fault resulting in multiple Users unable to use the Service
3	Customer reports repeated quality problems, intermittent faults, or degraded Service. No major service impacts.
4	Customer reports non-Service or business impacting issue.

3.5 Service Levels:

- (a) **Availability:**
 - (i) **Calculation:** Percentage Availability is calculated as: $[(A - B)/A] \times 100$.
"A" equals the number of whole minutes in the Monthly Measurement Period.
"B" equals the number of whole minutes that the Service is Unavailable in the Monthly Measurement Period
"Unavailable" or "Unavailability" means data cannot be transported through the applicable Service Demarcation Point for Enhanced NBIA, SRUA, and/or SNG Services for reasons other than Excluded Events.
 - (ii) **Target Availability:**

	Single PoP location	Geographic Diversity
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IP-VPN Service



Extra Service Terms- Network Based Internet Access, Secure Network Gateway and Secure Remote User Access

Vodafone Business Customers

Percentage availability	99.9%	99.99%
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(b) **Incident response and resolution times:**

- (i) Incident Resolution Time is calculated as the number of whole hours between the time Vodafone issues a Unique Identifier and the time Vodafone issues a Closure Notification for the Incident.

Severity Level	Target Incident Resolution Time
1	4 hours
2	4 hours
3	24 hours
4	72 hours

(c) **Change Request Definitions:**

- (i) The following definitions apply to Change Requests for Configuration Changes:

Change Request Type	Definition
Standard	Pre-approved Configuration Changes that are considered relatively low risk, straight forward, and repetitive in nature.
Routine	Configuration Changes that are non-trivial and not classified as an emergency change or standard change in this table.
Emergency	An urgent change that is necessary to address or prevent a Severity Level 1 or 2 Incident or when there is another urgent need such as a legal requirement or other business requirement.

(d) **Change Request Service Levels:**

Change Request Type	Target change implementation times	Target resolution reinvestigation times		Fair Usage Policy	
		Under 5 working days after change	5 Working Days and over after change	Standard Service Tier	Premium Service Tier
Standard	1 Working Day (24 hours)	4 Working Hours	5 Working Days	3 change requests per month	5 change requests per month
Routine	3 Working Days (72 hours)	4 Working Hours	5 Working Days	2 change requests per month	4 change requests per month
Emergency	4 hours	4 Working Hours	5 Working Days	2 change requests per quarter	3 change requests per quarter

IP-VPN Service



Extra Service Terms- Network Based Internet Access, Secure Network Gateway and Secure Remote User Access

Vodafone Business Customers

- (i) Target change implementation times are calculated as the number of whole Working Days or Working Hours (as applicable) that the Service Commencement Date for the Configuration Change occurs beyond the Agreed Delivery Date.
- (ii) Target resolution reinvestigation times: (a) only apply if the original Configuration Change has been implemented incorrectly by Vodafone; and (b) do not apply if Customer has provided Vodafone with incorrect or incomplete information.
- (iii) Target resolution reinvestigation times are calculated as the number of whole Working Days or Working Hours (as applicable) that the correct implementation of the Configuration Change occurs beyond the date that Customer notifies Vodafone via the Customer Services Centre that the Configuration Change has been incorrectly implemented by Vodafone.
- (iv) After the initial three months from the Service Commencement Date, Vodafone may charge Customer for Change Requests made outside the of the Fair Usage Policy limits outlined above

The following definitions are applicable to the Optional Service Elements in addition to those set out in the IP-VPN Service Specific Terms:

Enhanced Network Based Internet Access (Enhanced NBIA)	the Optional Service Element that provides an internet gateway facility which allows a Customer Site, or Customer Sites, to access to the public Internet as further described in the Service Specification.
Gateway(s)	the PoP location(s) identified in the Commercial Terms and/or Order.
Monthly Measurement Period	the period from the Service Commencement Date up to the end of the calendar month and then each calendar month thereafter (save for the last month that will end upon the termination date of the Service).
Secure Network Gateway (SNG)	the Optional Service Element as described in the Service Specification.
Secure Remote User Access (SRUA)	the Optional Service Element as described in the Service Specification.
Service Demarcation Point	depends on the Service package and other options selected in the Order as follows: (a) the port between the Router and the Customer Network for the Managed Service package; (b) the service interface of the access circuit for the Wires Only Service package; (c) the NTE when access is provided using Ethernet technology for the Wires Only Service package; (d) the access interface on the Maintained Router for the Maintained Service package; (e) the egress point from the Secure Network Gateway to the internet for Secure Network Gateway; and (f) the ingress point from the internet to the Secure Network Gateway for the Secure Remote User Access Service Element.



Extra Service Terms-Online Performance Reporting

Vodafone Business Customers

1. Service Term Structure

1.1 These Extra Service Terms form part of the Service Specific Terms for the IP-VPN Service when Customer orders the Online Performance Reporting Optional Service Element. If there is a conflict between them, these Extra Service Terms will supersede the IP-VPN Service Specific Terms, but only for the Online Performance Reporting Optional Service Element.

2. Online Performance Reporting – Overview

2.1 The Online Performance Reporting Optional Service Element is a Global WAN dashboard that includes: Incident visibility and reporting; geographic maps with service, network and configuration details; Planned Works notifications; network performance reporting; user guides, user profile management and e-billing.

2.2 This Optional Service Element is available where Customer selects the Managed Service package.

2.3 **User Logins.** Customer may order up to 5 user logins as part of the IP-VPN Online Portal.

3. Service Specific Conditions of Use

3.1 IP-VPN Online Portal reports are not used in the operation or measurement of Vodafone's Service Levels for the IP-VPN Service.

3.2 If the IP-VPN Online Portal is not used by Customer for 6 months or more (e.g., no Customer login is used), Vodafone may suspend the IP-VPN Online Portal.

4. Service Levels

4.1 The IP-VPN Service Levels do not apply to the IP-VPN Online Performance Reporting portal.

4.2 Service Delivery:

(a) Vodafone will use reasonable endeavours to provide the IP-VPN Online Portal within 10 Working Days of the Service Commencement Date of the IP-VPN Services at the second Customer Site.

(b) Vodafone will use reasonable endeavours to provision a configuration change within 10 Working Days of Vodafone's acceptance of the Order.

4.3 Incident Resolution:

(a) **Calculation:** Incident Resolution Time for Online Performance Reporting is calculated as the number of hours (or Working Days for Priority 4 Incidents) between the time Vodafone provides a Unique Identifier and the time Vodafone issues a Closure Notification for the Incident.

(b) **SLO's and Priority Levels:** Target Incident Resolution Service Level Objectives and Priority Level Examples are set out below:

Severity Level	Priority Level Examples	Service Level Objective
1 & 2	Total loss of Service (unable to access the reporting system)	6 hours
3	Degradation of Service (limited access to reports)	12 hours
4	Data integrity Incidents within the online reports	5 Working Days



Extra Service Terms-Online Performance Reporting

Vodafone Business Customers

- (c) The SLO for Incident Resolution will not apply if there is a total loss of hardware and the Incident will be resolved on a reasonable endeavours basis. If there is a total loss in Service or degradation of Service, Vodafone cannot guarantee that Customer reporting data will be retained.
 - (d) Data integrity Incidents within the reports will be treated as a Severity Level 4 Incident and will be resolved on a reasonable endeavours basis.
- 4.4 **Round Trip Delay:** Using IP-VPN Online performance Reporting Service, IP-VPN RTD (for all CoSs) will be measured by sending 10 test packets of 64 bytes between each pair of locations every 5 minutes. The average RTD performance for all samples recorded each Monthly Measurement Period will be used to indicate the actual RTD achieved in that month.
- 4.5 **Service Credits.** Service Credits in the IP-VPN Service Specific Terms do not apply to IP-VPN Online Performance Reporting Service.

IP-VPN Service



Extra Service Terms-VSAT

Vodafone Business Customers

1. Service Term Structure

- 1.1 These Extra Service Terms form part of the Service Specific Terms for the IP-VPN Service when Customer orders the very small aperture terminal (“VSAT”) Service Element. If there is a conflict between them, these Extra Service Terms will supersede the IP-VPN Service Specific Terms, but only for the VSAT Service Element.

2. VSAT – Overview

- 2.1 VSAT enables customers to access the IP-VPN QoS network from remote locations in the world, and receive services including but not limited to Voice, Data, corporate IP-VPN, Internet access, CCTV, video, audio and elementary services.
- 2.2 Customer has the option to purchase three access variants, which will be detailed in the Commercial Terms and/or Order:-
 - (a) Uncontended VSAT;
 - (b) Dedicated Contended VSAT; and
 - (c) Share Contended VSAT
- 2.3 Customer has the option to purchase the additional service offerings, which if applicable will be detailed in the Commercial Terms and/or Order:-
 - (a) VSAT Switch
 - (b) VSAT Switch – Installation
 - (c) VSAT Satellite NTE, including installation of the antenna, block up recovery and cabling
 - (d) VSAT Satellite NTE installation
 - (e) NTE Site Survey
 - (f) Satellite Hub Hardware
 - (g) Satellite Hub Hardware – Installation
 - (h) VSAT Licensing
 - (i) VSAT Site Maintenance

3. Equipment

- 3.1 Vodafone will provide the customer with the following equipment:-
 - (a) 96 cm antenna,
 - (b) 4W Block up converter,
 - (c) CE router, and
 - (d) iDirect modem.

4. Satellite

- 4.1 Vodafone will provide a Telstar 11N, KU band satellite located at [insert location] linking [insert sites] with the Customer’s [data centre] at [insert Customer site].
- 4.2 The coverage footprint of the Telstar 11N, KU band satellite is shown as follows:

5. Data rate

- 5.1 Vodafone will provide a 2Mbps duplex dedicated configured as 2Mbps outbound and 2x 1Mbps inbound.

IP-VPN Service



Extra Service Terms-VSAT

Vodafone Business Customers

6. Service Levels

6.1 The IP-VPN Service Levels do not apply to the IP-VPN VSAT Service.

6.2 BER and Availability

- (a) Vodafone will use reasonable endeavours to ensure that satellite links will be designed with a minimum BER of 1 in 10⁸ and an availability of 99.8%.

6.3 Target response time:

- (a) Target Response times are set out below:

Location	Target Response Time
UK Mainland	8 hours
Teleport at Whitehill	4 hours
Europe	[insert]
Rest of World	[insert]

6.4 Maintenance:

- (a) Vodafone will provide maintenance for the hub and VSAT. This consist of an annual maintenance visit, which includes a physical inspection of all VSAT equipment, together with a signal level status check for the modem and outdoor electronics. The signal level may be subject to downtime and Vodafone will provide the Customer with a proposed schedule of downtime prior to any occurrence.



Definitions

Vodafone Business Customers

The following definitions are applicable to the Services:

ADSL	asymmetric digital subscriber line.
Asymmetric Access Bandwidths or Asymmetric	ADSL and/or VDSL access circuits.
Availability	the percentage of time the Service is available for use at the Service Demarcation Point of each Customer Site in a Monthly Measurement Period.
Backbone	the IP Backbone Core and related infrastructure beyond the IP Backbone Core.
Class(es) of Service or CoS	the classes of Service used to prioritise network traffic.
Closure Notification	notice of the changed status of an Incident or other event to closed, whether or not the Customer has actually received that notice.
Configuration Change(s)	any Hard Configuration Change and/or any Soft Configuration Change.
Core Service Element(s)	the core elements of a Service package as set out in the Service Specification.
CoS Allocation	the bandwidth limits allocated to each CoS set out in the Commercial Terms and/or Order.
Coverage Band	one of the groups of coverage set out in the Coverage Bands schedule in these Service Specific Terms and pertains to Customer Sites directly connected to the IP Backbone Core and not via Extended Access Services.
Customer Network	the whole or such part of the Customer network which is connected to the IP Backbone Core via the Service.
Customer Supplied Router	the Customer-edge router at a Customer Site provided and managed by the Customer where set out in the Commercial Terms and/or Order.
Default CoS	the CoS allocated to any traffic not assigned to Standard CoS, Enhanced CoS or Premium CoS.
DSL	a Digital Subscriber Line.
EA Country Group Extended Access Group	the group of countries set out in the Extended Access Country Groups schedule.
EFM	Ethernet First Mile which is a copper based Ethernet access technology which may be used to provide symmetric bandwidth access circuits of 512Kbps to 20Mbps.
Enhanced CoS	a medium level of CoS consisting of three levels (1, 2 and 3) that prioritises traffic over classes of lower priority to reduce delayed or dropped traffic.
Excluded Events	any of the following: (a) fault or incident with any other Vodafone service purchased under a separate agreement and/or service specific terms; (b) a fault or incident in, or any other problem associated with, non-Vodafone supplied power, any Customer Equipment, Customer Supplied Router, non-maintained structured cabling, Customer-contracted third party local internet access (in



Definitions

Vodafone Business Customers

	<p>conjunction with Secure Internet Site Access), a Cloud Provider Data Centre (as defined in the Cloud Connect Extra Service Terms), or other systems or networks not operated or provided by Vodafone (including an Incident relating to consumption of services over the internet); (c) a fault or incident caused by Customer's negligence, act or omission or that of any third-party not within Vodafone's direct control; (d) a fault, incident or delay that arises as a result of a request by the Customer for an expedited delivery of the Service; (e) the Customer not performing or a delay in performing any of the Customer obligations or conditions of use set out in the Agreement; (f) the Customer requesting Vodafone to modify a Customer Site, or to test one, although no Incident has been detected or reported in accordance with the Agreement; (g) Service suspension or a Force Majeure event in accordance with the General Terms; (h) the inability or refusal by a third-party supplier to provide input products at a Customer Site where the Service uses these to deliver the access circuit;(i) a Configuration Change in the process of implementation; (j) an Planned Works; (k) any failure to achieve service degradation targets resulting from a rate adaptive ADSL, or VDSL2, line re-train or due to performance issues, such as noise or vibrations, impacting copper access technologies supporting asymmetric or symmetric access circuits; (l) any degradation of performance that is caused by, or for any fault or incident in, the access circuit that occurs as a result of, or in connection with, technical limitations beyond Vodafone's control; (m) Vodafone being unable to access or being delayed in accessing the Customer Site (where a Customer Site visit is required) due to reasons outside its control, including, inclement weather or Customer's refusal to admit Vodafone; or (n) any other circumstances caused by events for which Vodafone is not liable in accordance with the terms of the Agreement.</p>
Extended Access	an inter-provider MPLS interconnection that extends the Service using third party networks.
Extended Access Country Group	the group of countries set out in the Extended Access Country Group schedule.
Extended Access Services	the Optional Service Element based Extended Access, as further defined in the Service Specification.
Extra Service Terms	the additional terms that apply to certain Service Elements ordered by Customer set out within this Agreement or as Vodafone otherwise advises Customer in writing.
Hard Configuration Change	<p>a change to the Service that may include one or more of the following:</p> <ul style="list-style-type: none"> (a) transfer of the Service from one Customer Site to another; (b) migrating between physical service access options (including port speed or port type); (c) modifications requested by Customer to alter the Service at a Customer Site requiring physical intervention; (d) physical movement of a Customer Site; and/or (e) removing a Customer Site from the Service.
Incident	an unplanned interruption to the Service, a reduction in the quality of a Service, or a failure of a Service configuration item excluding any fault or, incident with any other Vodafone service purchased under separate service specific terms.
Incident Management	the end-to-end management of Incidents by Vodafone.
IP Backbone Core	Vodafone's multi-protocol label switching (MPLS) enabled network platform.



Definitions

Vodafone Business Customers

Jitter	a measure of the variation between the arrival of consecutive 64 byte IP packets caused by network congestion, timing differences or route changes.
Maintained	the Service package where Vodafone maintains the Router, and the Customer manages the Router as further set out in the Service Specification.
Maintained Router	either a: Customer Supplied Router; or a customer-edge router (including the installed software) at a Customer Site provided by Vodafone The Router shall be managed by Customer and maintained by Vodafone pursuant to the Maintained service package, including any antennas and or SIMs required for Mobile Data Access.
Managed	the Service package where Vodafone supplies, installs, maintains and manages the Vodafone Supplied Router as further outlined in the Service Specification.
Minimum Assured Rate	the minimum bandwidth guaranteed over the access circuit, subject to the line rate.
Mobile Data Access (MDA)	The Optional Service Element that provides access over a mobile network using a mobile access module and a SIM provided by Vodafone.
Monthly Measurement Period	the period from the Service Commencement Date up to the end of the calendar month and then each calendar month thereafter (save for the last month which will be the beginning of the calendar month up to the termination date or expiry of the Service).
Network Access Method(s)	the access method or methods which connect the Customer Sites to the global IP MPLS network as more specifically described in the Service Specification.
Normal Change	a change that is not an emergency change or a standard change, and is listed as a "Normal Change" in the Service Request Catalogue. Normal changes follow the defined steps of the change management process implemented by Vodafone from time to time.
NTE	Equipment used to terminate a Customer connection where Customer has Ethernet access or a local internet access provider's device where Customer has Secure Internet Site Access.
Optional Service Element(s)	the elements of the Service which are optional as set out in the Service Specification.
PoP	point of presence.
PoP Tier	one of the groups of coverage set out on in the PoP Tiers & SISA Bands schedule.
Premium CoS	the highest level of CoS, prioritised over all other traffic.
Round Trip Delay or RTD	the total time taken for an IP packet to pass from one Router to another Router and then back to the original Router.



Definitions

Vodafone Business Customers

Router	a router which is Equipment used in connection with the Service which shall be a Vodafone Supplied Router, Customer Supplied Router, or a Maintained Router.
Router Maintenance	the Maintained Service package as further detailed in the Service Specification.
Secure Internet Site Access or SISA	the provision of access to the Service using an encrypted tunnel over Vodafone provided local in country internet access or off-net access.
Service Credits	the service credits payable by Vodafone to Customer in accordance with these Service Specific Terms.
Service Degradation	one or all of the following metrics: Jitter, Round Trip Delay and/or Packet Loss.
Service Demarcation Point	(a) the port between the Router and the Customer Network for the Managed Service package; (b) the service interface of the access circuit for the Wires Only Service package; (c) the NTE where Ethernet technology is used for the Wires Only Service package; (d) the access interface on the Maintained Router for the Maintained Service package.
Service Levels(s)	the service levels which apply to the provision of the Service as set out in the Service Levels schedule.
Service Level Objective or SLO	the performance level Vodafone expects to provide, but which have no Service Levels or Service Credits associated with them.
Service Request Catalogue	the service request catalogue for IPVPN, as made available to Customer and updated by Vodafone from time to time.
Severity Level(s)	a categorisation of the severity of an Incident as determined by Vodafone in Vodafone's discretion as set out in clause 1 of the Service Levels.
SISA Band	one of the groups of coverage set out in the Coverage Bands schedule.
SISA Gateway	the device used to terminate encrypted tunnels over the internet as part of the provision of Secure Internet Site Access.
Site Classification	the classification assigned to a Customer Site in accordance with the Site Classification Matrix (the matrix that defines the Site Classification depending on its topology and access technology set out in the Site Classification Matrix).
Soft Configuration Change	a change to the Service provided to Customer that is not a Hard Configuration Change or a Normal Change, including the following: (a) modification of the configuration of the Customer's VPN, at Customer's request, that is not classified as a Hard Configuration Change; and/or (b) modifying the bandwidth allocated to a CoS for a Customer Site.
Standard CoS	a lower level of CoS consisting of one level that prioritises traffic over Default CoS to reduce delayed or dropped traffic.
Statement of Work	the statement of work which is prepared for Customer by Vodafone that contains further details of the Service.
Structured Cabling	standards-based building cable systems for commercial buildings that support data networks, voice, and video.



Definitions

Vodafone Business Customers

Third Party Backbone	an MPLS network core used by the relevant third party contracted by Vodafone, to extend access from the Backbone to the Customer Site.
Unavailable or Unavailability	a Customer Site cannot exchange data with another Customer Site for reasons other than an Excluded Event.
Unique Identifier	the unique reference key given to Customer by Vodafone, once Vodafone has logged an Incident or another event.
VDSL2	an access method which uses Fibre to the Cabinet (FTTC) and very-high speed digital subscriber line 2 (VDSL2) technologies, and access circuits using this access method offer contended bandwidth.
VDSL2 Assured	an access method which uses Fibre to the Cabinet (FTTC) and very-high-speed digital subscriber line 2 (VDSL2) technologies, and is a native Ethernet access method which comes with a higher Minimum Assured Rate of bandwidth than VDSL2 and allows the Customer to order throttled IP port bandwidths.
Vodafone Supplied Router	the Equipment which is a customer-edge router at a Customer Site provided and managed by Vodafone.
VPN	virtual private network.
VRF	is a technology included in internet protocol network routers that allows multiple instances of a routing table to exist in a router and work simultaneously. This increases functionality by allowing network paths to be segmented without using multiple devices.
Wires Only	the Service package where the Customer supplies, installs, maintains and manages the Customer Supplied Router as further outlined in the Service Specification.