

SERVICE SCHEDULE – IPVPN SERVICE



This Service Schedule (including the Optional Service Features Annex) sets out the service description and service levels that apply to the Internet Protocol Virtual Private Network (IPVPN) Service.

1 SERVICE DESCRIPTION AND RESALE TERMS

- 1.1 Our IPVPN Service provides multi-protocol label switching (**MPLS**) based layer 3 IP connectivity between designated access end points at PoPs on our IPVPN Network and includes other optional services specified in your Service Order Form (each a Service).
- 1.2 In this Service Schedule:
- (a) the “Global Services” are the IPVPN Services provided under this Service Schedule.
- 1.3 You may only resell the Service with our prior written consent. You further agree to contract with your end customers on substantially the same terms as the terms in this Agreement.

2 SERVICE LEVELS

- 2.1 The service levels that apply to your Global Services are set out below in this Service Schedule (**Global Services Service Levels**).
- 2.2 If we do not deliver any part of a Service which is part of your Global Services other than as a result of an Exclusion Event, you may be eligible to claim a credit. Credits are mutually exclusive, so you are only entitled to claim a single credit for each Service incident or outage.

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4 BANDWIDTH

- 4.1 You must specify in your Service Order Form the amount of bandwidth for your IPVPN Service (**Committed Data Rate**).
- 4.2 Subject to the terms relating to our burstable bandwidth optional service, we will not deliver your IPVPN traffic in excess of your Committed Data Rate.

5 SITE SURVEY

- 5.1 After acceptance of a Service Order Form, we will carry out a service delivery site survey (**Site Survey**) for the relevant Service. If the Site Survey reveals that the Service is unavailable or additional costs (including costs arising from capital works, on-site cabling or wiring or building management charges) are required to deliver the Service, we may propose an amendment to the Service and the charges for the Service by notice to you. If you do not accept the amended Service or the amended charges, you may cancel the Service provided that you reimburse us any third party costs that we reasonably incur in relation to your termination of the impacted Service.

6 SERVICE PROVISIONING TIME

- 6.1 After we carry out the Site Survey, we will provide you with a target service delivery completion date for a Global Service (**Ready for Service (RFS) Date**).
- 6.2 If we do not deliver any part of the Global Service to you by the RFS Date, other than as a result of an Exclusion Event, you may claim a credit of 5% of the monthly recurring charges (**MRC**) in respect of the undelivered site(s) for each Business Day past the RFS Date, up to a maximum credit of 100% of the first month's MRC for the delayed Service.
- 6.3 If we do not deliver any part of the Global Service to you within 31 days of the RFS Date other than as a result of an Exclusion Event, you may cancel the undelivered site(s) of the Global Service by notifying us in writing within 15 days of the expiry of the 31 day period.
- 6.4 We will provide you with a period of 2 Business Days from the date that we notify you that the Global Service is ready for testing (**Test Period**), to test the Global Service for any Provisioning Fault and accept the Global Service.

7 SITE AVAILABILITY TARGETS FOR GLOBAL SERVICES

7.1 Site Availability for single circuit with a single CPE is calculated according to the following formula:

$$\text{Site Availability} = \frac{X - (\text{Sum of all downtimes in the month}) \times 100\%}{X}$$

Where:

“X” is the number of minutes in a given month e.g., 30 x 24 x 60 = 43,200 for a 30 day month.

“Downtime” is the number of minutes that any given site of your service is unavailable.

Site is considered available when the Site has access to at least one viable link or device. Site is considered not available when there are multiple and/or simultaneous outages to links or devices and the Site does not have access to at least one viable link. The site availability targets only apply to each Global Service.

7.2 We will aim to meet the following Site Availability targets depending on the resilience design of the Global Service set out in Table 1:

Table 1: Site Availability for Global Services

Design Type	Service Type 1	Service Type 2	Telstra PoP Resiliency	Monthly Site Availability		
				Tier 1	Tier 2	Tier 3
1	IPVPN	IPVPN	Dual	100.0%	99.995%	N.A.
2	IPVPN	IPVPN/ GID/ GIE Standard	Single / Off Net	99.99%	99.97%	99.95%
3	IPVPN	GIE Wireless/ GIE Economy	Single / Off Net	99.98%	99.95%	99.90%
4	IPVPN	None	Single / Off Net	99.90%	99.50%	99.00%

If your Global Service is Unavailable in a month, you may claim a credit as a percentage of MRC for the impacted Global Service, calculated in accordance with Table 2 below.

Table 2: Site Availability Credits for Global Services

Actual Availability	Design Type (Credit Applicable for respective scenarios on MRC)			
	1	2	3	4
<99.999%	2%			
< 99.99%	5%	2%		
< 99.9%	10%	5%	5%	
<99.0%	20%	15%	15%	5%
<98.5%	25%	20%	20%	10%
<95.0%	30%	25%	25%	15%

For clarity, Services on Design type 2 in Tier 2 locations will be eligible for 2% credit if the actual availability reported is between <99.97% - >99.9%. Similarly, Services with Design type 3 in Tier 1 locations will be eligible for 2% credit if the actual availability reported is between <99.98% - >99.9%

7.3 If a Global Service experiences either:

- (a) a single period of Unavailability in excess of 24 hours in any month; or
- (b) three or more periods of Unavailability of eight or more hours each in any six month period,

(either being a **Chronic Outage**), you may cancel the impacted Global Service without the payment of any Early Termination Charges by notifying us in writing within 15 days of the Chronic Outage.

8 MEAN TIME TO RESTORATION (MTTR)

8.1 We will aim to meet a MTTR target of less than four hours per month on the Global Services.

8.2 MTTR is calculated according to the following formula:

$$\text{Average MTTR} = \frac{(\text{Total Downtime for the Network Service at a Site})}{\text{Total number of Fault tickets for that Site in the month}}$$

Where:

“Downtime” is the number of minutes that your service is unavailable in the month.

Table 3: MTTR Targets

Priority Level Faults	MTTR Target
Priority 1 - Critical site down or network outage affecting more than one link or site with no backup. Incidents which render a system and/or critical functionality unusable. Requires immediate corrective action and technical escalation. E.g., A network outage affecting a Hub Site and widespread impact to multiple branch offices including site with total site isolation where primary and secondary services are down leading to huge revenue impact for our customer.	100% restored (or work around) in 4 hours
Priority 2 - An active service is hard down resulting in critical impact to the end user's business operations. E.g., A link is down without backup and severe performance degradation making the service unusable.	100% restored (or work around) in 4 hours
Priority 3 - The operation of an active service is degraded, but the incident does not significantly impair the service. E.g., A link with degraded performance. (This can be upgraded to Priority 2 if the performance has degraded making the service unusable with valid business impact)	100% restored (or work around) in 8 hours
Priority 4 - Retrospective (not real-time) request; may or may not be fault related, e.g. a request for the reason for outage (RFO). This category also includes any incidents with no or minimal impact to system functionality or service to customers. Support sought is for	100% restored (or work around) in 24 hours

8.3 If the actual MTTR of a Global Service exceeds four hours for a month, you may claim the following credit:

MTTR Credits – Priority 1 and Priority 2

This table shows the credits applicable for the services when the MTTR target is not met for P1 and P2 incidents.

Table 4a: MTTR Credits

Hourly Slabs	IPVPN Rebate (% of MRC)
>4hrs- <=8 hrs	10%
>8hrs - <=12 hrs	15%
>12hrs- <=16 hrs	20%
>16hrs- <=20 hrs	25%
>20hrs- <=24 hrs	30%
>24 hrs- <=36 hrs	35%
>36hrs- <=48 hrs	40%
>48 hrs- <=72 hrs	50%
>72 hrs	100%

Table 4b: MTTR Credits - Priority 3

This table shows the credits applicable for the services when the MTTR target is not met for P3 incidents:

Hourly Slabs	IPVPN Rebate (% of MRC)
>8 hrs - <=16 hrs	5%
>16 hrs - <=24 hrs	
>24 hrs - <=48 hrs	10%
>48 hrs - <=96 hrs	
>96 hrs	15%

9 ROUND TRIP DELAY (RTD)

- 9.1 We will aim to meet the PoP-to-PoP RTD targets applicable to your Global Service and notified to you.
- 9.2 If our average PoP-to-PoP RTD performance over the period of a month exceeds the PoP-to-PoP RTD target by 20% for a particular IPVPN class of service (CoS) of a Global Service in a month, you may claim a credit for the impacted Service equal to 10% of MRC.

10 PACKET DELIVERY RATIO (PDR)

- 10.1 We will aim to meet the monthly PDR targets for the Global Services set out in Table 4.

Table 5: PDR Targets for Global Services

Targets (%)					
Voice CoS	Video CoS	Critical Data CoS	Interactive Data CoS	Standard Data CoS	Low Priority Data CoS
99.995%	99.99%	99.95%	99.95%	99.95%	99.9%

- 10.2 If our average PDR performance over the period of a month does not meet the PDR target for a particular CoS for a Global Service, you may claim a credit for the impacted Service equal to 10% of MRC.

11 JITTER

- 11.1 The Jitter targets apply to the Global Service, Voice CoS only. We will aim to meet a monthly average PoP-to-PoP Jitter target of:
- (a) ≤ 35 milliseconds for South Africa;
 - (b) ≤ 15 milliseconds for China, India and Latin America; and
 - (c) ≤ 5 milliseconds for all other locations.
- 11.2 If our average PoP-to-PoP Jitter performance over the period of a month does not meet the Jitter target, you may claim a credit for the impacted Service equal to 10% MRC

12 COUNTRY TIERS

The table below shows the break down of coverage into Tier 1 and 2.

Tiers 3 locations are covered through NNI coverage:

Tier 1	Australia, China, Hong Kong, Japan, South Korea, Singapore, Taiwan, Denmark, France, Germany, New Zealand, Netherlands, Sweden, United Kingdom, Canada, United States of America
Tier 2	India, Indonesia, Malaysia, Philippines, Thailand, UAE, South Africa

13 SERVICE CREDIT CAP

- 13.1 The total credits payable to you in respect of a Global Service not meeting the targets set out in clauses 7 to 11 above in a particular month is capped at 50% of the MRC for that Global Service.

14 POLICIES

- 14.1 You must comply with our policies relating to IP addresses, routing protocols and CoS as they apply to the Service which we will provide to you on request.

15 EARLY TERMINATION CHARGES

- 15.1 If you cancel or downgrade a Service for any reason other than our material breach of this Agreement at any time:
- (a) prior to the Service Start Date for that Service, you must pay us an Early Termination Charge in the amount of the costs reasonably incurred by us as a result of the termination (including any reasonable amounts payable by us to our Service Provider as a result of the cancellation of the Service);
 - (b) during the Initial Period for that Service, you must pay us an Early Termination Charge for the remaining months in the Initial Period calculated in accordance with the following table:

Table 6: Early Termination Charges

Initial Period	Percentage of the MRC payable as Early Termination Charge from the date of cancellation / downgrade	
12 Months	Months 1-12	100%
24 Months	Months 1-12	100%
	Months 13-24	75%
36 Months	Months 1-12	100%
	Months 13-24	75%
	Months 25-36	50%

16 DEFINITIONS

16.1 In this Service Schedule, unless otherwise stated:

Available or **Availability** means the number of minutes in a month during which a Service is not Unavailable at a PoP or at a Site

Initial Period means the minimum period for which you must acquire a Service, as set out or referred to in a Service Order Form or the applicable Service Schedule.

Global Services has the meaning set out in clause 1.2.

Jitter measures the average deviation in a month in the RTD for the Voice CoS. Jitter is measured between PoPs using sample test IP packets sent at five minute intervals between PE Routers enabled with a performance monitoring device to measure continues traffic flow over our IPVPN Network.

Local Access or **Local Loop** means the domestic connecting carriage service providing a direct connection between a PoP in a country and your Site in that country.

Mean Time to Restore (MTTR) means the sum of the time the Service is Unavailable during a month divided by the total number of Service outages in that month. Each occasion on which the relevant Service is Unavailable is counted as one outage.

MRC means the monthly recurring charge payable for the Service or a component of the Service for a relevant calendar month.

Network means a system or series of systems that carries, or is capable of carrying communications by means of guided or unguided electromagnetic or optical energy.

Packet Delivery Ratio (PDR) means the ratio of the number of test IP packets received at a destination provider edge router, compared with the number of test packets sent from an origin provider edge router at 5 minute intervals in a month. PDR only applies to a Global Service where the Port is on a provider edge router that is enabled with a performance monitoring device to measure traffic flow over our IPVPN Network.

PoP means a point of presence housing access nodes which connect to the Telstra international backbone network used by us to carry the Services between PoPs in different countries around the world.

Port means a service access point within a PoP.

PoP-to-PoP means a point-to point or point-to-multipoint Global Service provisioned between PoPs without a Local Access.

Provisioning Fault means the failure of the Global Service to meet the relevant ITU specifications for establishing that Service.

Ready for Service (RFS) Date has the meaning set out in clause 6.1.

Round Trip Delay (RTD) is measure of the monthly average round trip delay performance for each Global Service and is measured separately between our PoPs for each type of CoS between PE Routers enabled with a performance monitoring device to measure continues traffic flow over our IPVPN Network, as identified on PoP List.

Service Start Date means the day after the expiry of the Test Period.

Site means a location to which your Service is supplied or connected.

Site Survey has the meaning set out in clause 5.1.

Test Period has the meaning set out in clause 6.4.

Unavailable or **Unavailability** means an unplanned outage that results in the total disruption of a Service, such that the Service is unable to send and receive data. Unavailability commences when a trouble ticket has been logged by our service desk, and excludes any period during which an Exclusion Event applies.



The terms Business Day; Early Termination Charge, Exclusion Event; Personnel, Service Order Form and Service Provider are defined in the Definitions section of our Global Business Services Agreement.

1 OPTIONAL SERVICE FEATURES FOR GLOBAL SERVICES

- 1.1 You may request us to supply the following optional service features as part of your Global Service:
- (a) Remote Site Access (**RSA**);
 - (b) Secure Mobile Access (**SMA**);
 - (c) Unmanaged Internet Access (**UIA**);
 - (d) Burstable Bandwidth; and
 - (e) Expereo Global Internet Extension Gateway (**Expereo GIEG Service**),
- (Optional Service Features).
- 1.2 To access the Optional Service Features, you may need to separately acquire additional services such as our Global Internet Direct (GID) Service. The terms relating to the supply of those additional services are set out in separate Service Schedules and Service Order Forms.
- 1.3 You are responsible for the configuration and the security of your equipment which is connected to the Optional Service Features.

2 RSA

- 2.1 Our RSA Service connects your Sites to our IPVPN network via an internet connection used as last mile.
- 2.2 For each Site where RSA is provided, a virtual local area network (**VLAN**) is created between a router at an IPVPN Port and a router at a GID Port. We will allocate the bandwidth on the VLAN according to the IPVPN Port speed set out in your Service Order Form.
- 2.3 We provide RSA as either a:
- (a) dedicated gateway for one remote Site connection; or
 - (b) shared gateway for multiple remote Site connections.
- 2.4 We will allocate the bandwidth on the VLAN according to the IPVPN Port speed set out in the Service Order Form.
- 2.5 You must either accept our IP address and IP address blocks or provide the remote host IP address and IP address blocks for your remote Sites.
- 2.6 The RSA traffic will be assigned a "Low Priority Data (LPD) Class of Service (CoS)" on the IPVPN network.
- 2.7 The RSA service level targets are as shown below (excluding the internet connection):
- (a) The RSA service availability target is 99.9% as per "Design Type 4 in Table 1: Site Availability for Global Services" under clause 7.2 above; and
 - (b) Round Trip Delay (clause 9 above) and Packet Delivery Ratio (clause 10 above) for Low Priority Data Class of Service are applicable to the RSA Service.

3 SMA

- 3.1 Our SMA Service provides you with 3rd-party software that allows you to obtain secure remote access to our IPVPN Network via a secure mobile access gateway.
- 3.2 We provide SMA as shared gateway for multiple remote site connections.
- 3.3 You must ensure that the mobile client IP address pool we provide you does not conflict with your IPVPN setup.

- 3.4 You must provide your own DNS server IP address if you want to access your internal applications via your domain name.
- 3.5 You can specify the location(s) and bandwidth of the SMA gateway and number of concurrent users in your Service Order Form.

4 UIA

- 4.1 Our UIA Service allows you to use two virtual circuits on the same Local Access to connect to an IPVPN Port and a GID port (**Shared Local Access**).
- 4.2 Our UIA Service is only available in PoPs in which we offer both GID and IPVPN Services.
- 4.3 We will provide you with dedicated bandwidth on the Shared Local Access for both your IPVPN Service and your GID Service. Your combined IPVPN Service and GID service traffic on the Shared Local Access must not exceed the total bandwidth of the Shared Local Access.
- 4.4 The Shared Local Access is part of the IPVPN Service (and is not part of the GID Service). Our IPVPN service level targets apply only to the IPVPN virtual circuit part of the Shared Local Access. The Service Levels applicable to the GID component of the Shared Local Access are set out in the relevant Internet Service Schedule.

5 BURSTABLE BANDWIDTH

Introduction

- 5.1 Our Burstable Bandwidth Service allows you to use additional network bandwidth above your Committed Data Rate up to a maximum amount of IPVPN network bandwidth (**Maximum Data Rate**), as specified by you in your Service Order Form.
- 5.2 If you do not specify a Maximum Data Rate, the default ratio of 2:1 (Maximum Data Rate: Committed Data Rate) will apply.
- 5.3 You may only request a variation to each of your Committed Data Rate and Maximum Data Rate once each month. The variation will take effect in the next calendar month.
- 5.4 We do not promise to deliver your IPVPN traffic in excess of your Committed Data Rate. We will not deliver your IPVPN traffic in excess of your Maximum Data Rate.

How we measure and charge your bandwidth

- 5.5 Your standard MRC will apply to your bandwidth usage up to your Committed Data Rate. Additional variable charges will apply to your bandwidth usage in excess of your Committed Data Rate and up to your Maximum Data Rate.
- 5.6 We will measure your bandwidth usage in five minute intervals, on all your incoming and outgoing IPVPN traffic through each Port for the purpose of calculating your chargeable bandwidth for the option that you select below:
- (a) **95th Percentile** – we use the higher of your incoming and outgoing IPVPN traffic and charge a specified rate to your bandwidth usage in excess of your monthly utilisation collected by us after excluding the top 5% of your monthly traffic when arranged from highest to lowest;
 - (b) **90th Percentile** – if agreed by us in writing, we use the higher of your incoming and outgoing IPVPN traffic and charge a specified rate to your bandwidth usage in excess of your monthly utilisation collected by us after excluding the top 10% of your monthly traffic when arranged from highest to lowest; or
 - (c) **Average Rate** – if agreed by us in writing, we will charge a specified rate to the simple average of your bandwidth usage in excess of your monthly utilisation collected by us.

Service levels

- 5.7 Our service levels only apply to your Committed Data Rate and not to your bandwidth usage in a particular month

that exceeds your Committed Data Rate.

6 EXPEREO GLOBAL INTERNET GATEWAY SERVICE

- 6.1 Our Expereo Global Internet Gateway (Expereo GIEG) Service provides set-up, configuration and maintenance of an encrypted public internet based connection from a remote Site to your IPVPN Service and includes:
- (a) remote Site internet access provided over one of the following Local Access types: Digital Subscriber Line technology (ADSL, SDSL, HDSL, VDSL), Private Line, Cable, Satellite (2-way), Wireless or 3G Mobile networks, with speeds ranging from 64kbits/s up to 47Mbit/s, depending on location;
 - (b) a router on your Site connected to our internet gateway and your LAN; and
 - (c) an IPSec tunnel between the router on your Site and our internet gateway.
- 6.2 The terms relating to the supply the Expereo GIEG Service are set out in a separate Internet Service Schedules which we will provide on request.