



## **Service Definition**

### **IP VPN Service**

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## 1 Overview

### 1.1 Introduction

This Service Definition document describes Nexium’s IP VPN Service from the customer’s perspective. The product is described in terms of an overview, service specification, service levels, orderable service options and technical specifications.

The details included below describe standard aspects of Nexium’s IP VPN Service. Specific customer requirements may vary, and therefore any service offering (including aspects such as price and performance guarantees) will require contractual agreement.

### 1.2 Product Overview

The Nexium IP VPN product is a fully-meshed, Layer-3 product that provides “any-to-any” connectivity over geographically diverse locations across Queensland. It uses industry-standard, Multi-Protocol Label Switching (MPLS) that allows a variety of IP-based devices to connect and communicate in a secure and seamless method.

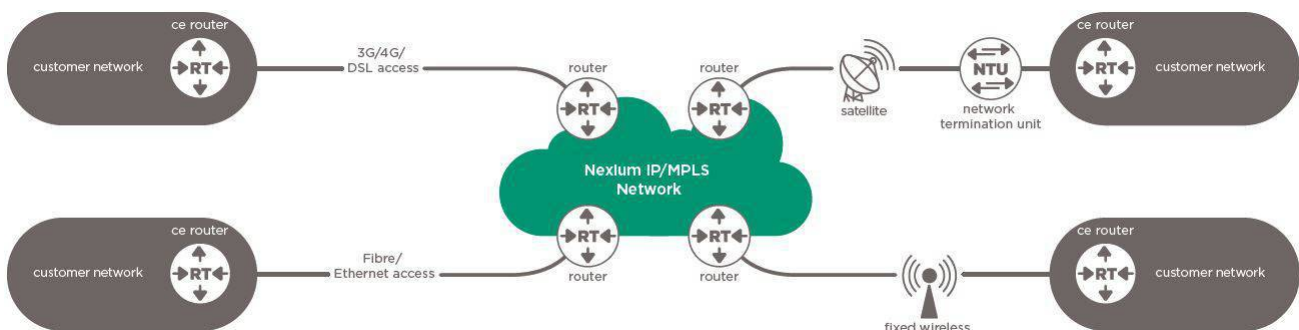
The benefit of this is that your network is extended to any number of locations required, acting as a logical “network cloud” rather than multiple point-to-point locations. It can be straightforward to expand the network and add additional sites without disruption to other locations.

### 1.3 Services Offered

The Nexium IP VPN service is available over a range of different access types depending on your location, the required bandwidth, geographic coverage, and budget, including:

- Fibre
- Radio / microwave
- Fixed wireless,
- External 3G/4G and DSL
- National Broadband Network (NBN) services, including FTTx, and Hybrid-Fibre Coaxial services, Fixed Wireless and Satellite (SkyMuster™) services (note – a Fair Use Policy applies to NBN Satellite services)
- Other services

Full details of connectivity options and technical requirements are outlined in the Technical Specifications section of this document.



The IP VPN product is designed as an application-aware service that allows customers to prioritise and segment data traffic to maximise the performance of most critical applications. IP VPN Services support up to 4 classes of Quality of Service (QoS) traffic types, with 3 being available at the edge

(the 4th is for marked down traffic). This includes real-time service such as voice over IP and videoconferencing. The data classifications are designed to ensure that the most important applications are given the priority they require. Full details of connectivity options and technical requirements are outlined in the Technical Specifications section of this document.

## 2 Service Levels

Service Levels<sup>1</sup> determine the quality characteristics of the Services. Service levels are described in terms of individual metrics, as outlined in the tables below. Specific customer requirements may vary, and therefore any service offering (including aspects such as price and performance guarantees) will require contractual agreement.

Where external providers are used, such as 3G/4G, DSL and NBN services, service levels may vary outside Nexium's standard resolution times. This information should be discussed between the customer and Nexium Account Manager and acknowledged in a specific agreement for each service.

### 2.1 Target Service Levels

The Service Level Tables below also include Target Service Levels for some metrics.

### 2.2 Severity Level Definitions

Some of the Service Level metrics include reference to Severity Levels, being the severity designation assigned to Incidents. The Severity Levels are defined as follows:

**Severity Level 1** – A total loss of a service element or error rate that renders the service unavailable, or any fault that poses a hazard to the safety of the customer's or supplier's personnel, or the general public.

**Severity Level 2** – a partial loss of a service element component; or a reduction in link traffic carrying capacity (degradation), Service still usable but impaired.

**Severity Level 3** – anomalies in transmission performance; or any non-service affecting alarms.

**Severity Level 4** – indicates all other reasonable problems or requests.

A customer may request that an incident be treated as a higher Severity Level if the customer reasonably believes that the business impact of the incident is greater than the Severity Level classification assigned.

<sup>1</sup> Service Level targets are for Nexium managed services only. External services such as 3G/4G, DSL, NBN and satellite services are subject to service levels provided by the relevant provider.

## 2.3 Service Availability

Metric: Service Availability	
Metric Definition	<p>Measures the availability of each Service.</p> <p>“Available” in relation to the Service means that the Service is accessible to the customer, and able to transmit customer data across the Nexium service, as measured at the Measurement Point specified below. The service is considered unavailable when the Nexium Operational Support System point to point service agent reports unavailability.</p> <p>Availability is measured on a per service basis.</p>
Measurement Period	24 x7
Target Service Level	99.95% for service delivery within or between Regional Centres or Brisbane
Applicable Rebate	TBA
Measurement Methodology	
Measurement Point	Measured from the User Network Interface i.e. the customer’s connection at the Nexium Customer Edge switch to Internet Tier 1 Interconnection.
Calculation	$\text{Actual Availability \%} = \left[ \frac{(\text{Actual Hours Available} + \text{Excusable Downtime})}{\text{Available Hours}} \right] * 100$ <p>Where:</p> <p><b>Actual Hours Available</b> means the amount of time within the Available Hours that the Service was actually Available.</p> <p><b>Excusable Downtime</b> means the aggregate time within the Available Hours that the Service is not Available due to:</p> <ul style="list-style-type: none"> <li>any Scheduled Downtime; and</li> <li>any other excusable event under the Customer contract. Includes in the first instance Force Majeure, compliance with laws / direction of a Regulator, Customer or End User caused outages and suspensions as an alternative to right of termination.</li> </ul> <p><b>Available Hours</b> means 24 hours, 7 days a week every day of the year.</p>
Period of Calculation	Calculated on a calendar monthly basis
Frequency of Measurement	A service response measurement is taken every 5 minutes.
Data Source	Measured using Nexium’s Operational Support System.
Measurement responsibility	Network Operations Centre
Reporting Frequency	Monthly – to be provided within 10 Business Days of the end of the relevant calendar month.
Reporting Requirements	<ul style="list-style-type: none"> <li>Reports to be provided in soft copy</li> <li>All relevant support data required to verify the Service Level calculations to be provided or made available in an acceptable format</li> <li>Reports to include the information set out in the “Calculation” section, details of actual performance against Minimum Service Level (in graphic representation where possible), details of outages, causal analysis and remedial and preventative actions.</li> </ul>

## 3 Support Service Levels

### 3.1 Incident Management

Metric: Incident Management				
Metric Definition	Measures the successful completion of problem response, resolution and communication processes for each problem. Problem management measures the percentage of Problems where response and resolution targets were met and communication processes followed.  Problem Management targets are a function of the severity of the problem.			
Measurement Period	24 x 7			
Target Service Levels				
		Response (By Telephone)	Restoration (Excludes reasonable travel time to site from closest concentration of the applicable personnel, ie: Rockhampton, Townsville, Toowoomba for Regional Centres)	Communication Updates
	<b>Severity Level 1</b>	95% within 30 minutes	95% within 4 hours	Every 30 minutes
	<b>Severity Level 2</b>	95% within 30 minutes	95% within 8 hours	Every 60 minutes
	<b>Severity Level 3</b>	95% within 30 minutes	95% within 5 business days	Once per day
	<b>Severity Level 4</b>	95% within 1 business day (e-mail or telephone response)	95% within 10 business days or as otherwise agreed	Weekly notification of outstanding problems
	Faults that are a result of a fibre cut by the Supplier or the Supplier's Personnel - 12 hours (excluding reasonable travel times from Townsville / Rockhampton / Toowoomba to the relevant site)			
	Faults that are a result of a fibre cut by any person other than the Supplier or the Supplier's Personnel: - Force Majeure conditions apply and the Supplier will use best endeavours to restore.			
Applicable Rebate	N/A			
Measurement Methodology				
Measurement points	N/A			
Calculation	N/A			
Period of Calculation	Calculated on a per incident basis			
Frequency of Measurement	Monthly			
Data Source	Nexium Fault Management System.			
Measurement responsibility	Network Operations Centre			
Reporting Frequency	Monthly – to be provided within 10 Business Days of the end of the relevant calendar month.			

Reporting Requirements	<ul style="list-style-type: none"> <li>• Reports to be provided in soft copy</li> <li>• All relevant support data required to verify the Service Level calculations to be provided or made available in an acceptable format</li> <li>• Reports to include, details of actual performance against Target Service Level (in graphic representation where possible), details of causal analysis and remedial and preventative actions to be provided.</li> </ul>
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## 3.2 Change Management

Metric: Change Management	
Metric Definition	Measures successful completion of operational change activities.  Successful completion means a change that has been completed or backed out in accordance with the agreed change window and process and that does not introduce unforeseen problems subsequent to implementation of the change.
Scheduled Hours	N/A
Minimum Service Level	95% of changes successfully completed in accordance with scheduled change window.
Target Service Level	98% of changes successfully completed in accordance with scheduled change window.
Applicable Rebate	N/A
Measurement Methodology	
Measurement point	N/A
Calculation	% = Successful Changes/Total Changes x 100
Period of Calculation	Measured for each change.
Frequency of Measurement	Monthly
Data Source	Change Management tracking data base and related records.
Measurement responsibility	Network Operations Centre
Reporting Frequency	Monthly – to be provided within 10 Business Days of the end of the relevant calendar month.
Reporting Requirements	Reports to be provided in soft copy  All relevant support data required to verify the Service Level calculations to be provided or made available in an acceptable format, including number and reason for planned outage.

## 4 Technical Specifications

Access Technology	Fibre / Radio		DSL		Wireless		Satellite
	Fibre	Microwave Radio /	External (3 <sup>rd</sup> -party)	NBN FTTP / FTTB	Ergon 3G/4G	External (3 <sup>rd</sup> -party) 3G/4G	NBN or other provider
	External (3 <sup>rd</sup> -party) Layer-2 Service						
General information							
Max MTU size (bytes) <sup>3</sup>	1526 to 9000		1492	1518	1500	1500	1550
Interface							
Port speeds	100Mb / 1Gb / 10Gb			10Mb / 100Mb			

Interface Types	100/1000 BaseT (RJ45)	100/100 BaseT (RJ45)				
	1000BaseSX (MMF)					
	1000BaseLX (SMF)					
	1000BaseEX (SMF)					
	1000BaseZX (SMF)					
	10G-SR (MMF)					
	10G-LR (SMF)					
<b>Reporting</b>						
Availability	Yes	Yes	Yes	Yes	Yes	Yes
Jitter / Delay / Packet Loss	Yes	Yes	Yes	Yes	Yes - managed CE only (future product)	Yes
		Yes - managed CE only (future product)				
Utilisation	Yes	Yes	Yes	Yes	Yes - managed CE only (future product)	Yes
		Yes - managed CE only (future product)				
Monthly reporting	Yes	Yes	Yes	Yes	Yes	Yes
<b>Routing Protocol</b>						
BGPv4	Yes	Yes	Yes	Yes	Yes	Yes
Static	Yes	Yes	Yes	Yes	Yes	Yes
Maximum Routes	100	5	100	5	5	20
Routing Tables (Full / Default )	Full / Default	Default Only	Full / Default	Default Only	Default Only	Default Only
<b>Network Configuration</b>						
Hub and Spoke	Yes	Yes	Yes	Yes	Yes	Yes
QoS Available	Yes	No	Yes	No	No	Yes
QoS Classes	Real Time	Best Effort	Real Time	Best Effort	Best Effort	Best Effort
	Business Critical		Business Critical			
	Bulk Data		Bulk Data			
	Best Effort		Best Effort			
DiffServe (DSCP)	Yes	No	Yes	No	No	Yes
<b>Performance Targets<sup>2</sup></b>						
Availability	99.95%	99.50%	-	-	99.50%	99.95%
Packet Loss	< 0.5%	-	-	-	-	-
Delay (RTT)	< 20ms	-	-	-	-	-
Jitter	< 10ms	-	-	-	-	-
Speeds (Download / Upload)	512 Kbps to 10 Gbps	512 Kbps to 4 Mbps / 512 Kbps to 1.5 Mbps	12 Mbps to 100 Mbps / 1 Mbps to 40 Mbps	1 to 50 Mbps	3.6 Mbps	12 Mbps to 25 Mbps / 1 Mbps to 5 Mbps