



Network  
solutions  
that help  
your  
business  
grow

## About TransGrid Telecommunications

With more than 15 years' experience TransGrid Telecommunications is a market leader, managing an extensive fibre optic network covering in excess of 4000 kilometres across NSW, the ACT and VIC. As an independent Telecommunications Infrastructure partner, our aim is to maximise our competitive advantage, leveraging TransGrid's existing infrastructure.

TransGrid's "Fibre in the Sky" is a network of optic fibre that runs along 37,000 of our towers, combined with a comprehensive microwave network known for its reliability and security. This enables TransGrid's Telecommunications the diversity and scale to successfully meet customers' needs.

## TransGrid Carrier Ethernet

TransGrid Carrier Ethernet (TGCE) is a scalable, reliable and feature-rich Carrier Ethernet network solution for private network and cloud connectivity.

Designed to the Metro Ethernet Forum (MEF 3.0) standard, TGCE provides flexible bandwidth increments and standardised service features that gives you the ability to carry different service attributes using one technology.

TGCE can accommodate multiple traffic types, including voice and video, as well as non-IP based traffic. TGCE is a Layer 2 Virtual Private Network (VPN) solutions which gives you a simple alternative to the traditional Layer 3 IP VPNs.



### Features & benefits

TGCE enables your growing businesses to scale in a dynamic business environment



### Scalability

Supports speed ranging from 2Mbps to 10Gbps



### Privacy

Secure Layer 2 connectivity supporting point-to-point or point-to-multipoint connections



### Coverage

TransGrid's network offers CBD, Metro and regional coverage using aerial and underground fibre and third party access networks via ENNI (External Network to Network Interface) including NBN Enterprise Ethernet and Telstra Ethernet Access/Managed Leased Line services



### Deliver fast, highly reliable services

TransGrid's network offers low network latency



### Connectivity to selection of public cloud

Including; AWS, Google, Azure, Oracle, IBM etc.

## TransGrid Internet

TransGrid Internet (TGI) provides two options to meet your needs:

### TransGrid Business Internet (TGBI)

- A business grade internet service that meets your corporate needs

### TransGrid Carrier IP Transit (TGIPT)

- An uncontended carrier grade internet service designed especially for Internet Service Providers or aggregators

TransGrid Internet is a scalable, and flexible Internet solution that can meet your growing business needs with extensive local peering and upstream international IP transit providers to maintain the service performance and reliability.



### Features & benefits

TGBI enabling organisations to thrive on the internet ecosystem in the world of cloud, virtual applications and low cost access. TGIPT provides low latency, high speed and uncontended internet service enabling Internet Service Providers to provide great experience to their downstream end-users



### Scalability

Both TGBI and TGIPT supports speed ranging from 2 Mbps to 10Gbps



### High availability

Stay connected with TGBI and TGIPT with high target core network availability of 99.95%

## TransGrid Wavelength

TransGrid Wavelength (TGW) is a high capacity, point-to-point data carriage service that uses optical fibres and Dense Wavelength Division Multiplexing (DWDM) technology. TGW enables you to extend or supplement your telecommunication network.

Built on next generation DWDM technology, TGW utilises technology compliant with relevant ITU-T standards including Optical Transport Network (OTN) interfaces and IEEE Ethernet standards supporting a range of customer interfaces at data speed of nx1Gbps, 10Gbps and 100Gbps.



### Features & benefits

TGW solution empowers bandwidth demanding businesses to scale their network in a dynamic business environment



### Scalability

1Gbps, nx10Gbps, 100Gbps options



### Savings

Reduce your cost by utilising cost effective solutions



### Coverage

TransGrid's network offers CBD, Metro and Regional coverage using aerial and underground fibre



### Deliver fast, highly reliable service







TransGrid's network offers low latency routes and network redundancy

## TGCE Technical Specs

Attribute	TransGrid Carrier Ethernet options
Ethernet Type	EPL, EP-LAN, EVPL, EVP-LAN,
Service Bandwidth	CIR/EIR, up to 10Gbps
Class of Service	Three CoS Labels - L, M, H
CoS Profile	Single Class: L, M, H Multi Class with bandwidth sharing: LMH
Default MTU Size	9,100 bytes
Layer 2 Control Protocol (L2CP) handling	L2CP Transparency
UNI Port Speed Negotiation	Auto or Fixed
IEEE 802.1p Support	Support p-bit transparency
EVPL CE CoS ID Preservation	Supported
EVP-LAN CE VLAN Preservation	Supported
CE-VLAN to EVC Mapping	EPL, EP-LAN– Support “All to one” bundling EVC mapping; EVPL, EVP-LAN,– Support “One to one” or “Many to one” bundling mapping
UNI Physical Interface	100Base-TX, 1000Base-TX, 1000Base-SX/LX, 10GBase-LR/ER

\*Note: Not all technical options are available via 3rd party access networks. Please consult your Account Manager for details.

## TGIPT & TGBI Technical Specs

Attribute	TransGrid Internet options
 Interface Option	10/100/1000 Base T, 1000 Base SX/LX
 Service bandwidth	2Mbps to 10Gbps
 Target access availability	99.95%
 Static or BGP	WAN link IP addressing assigned from routable public IP address /30 subnet space* or public IP address to be supplied by the customer
 Billing	Flat/unlimited
 Network monitoring	24x7x365

\*Note: For more than 2 additional customer IP address assigned by TransGrid per service, additional charges might apply subject to availability.

## TGW Technical Specs

Attributes	TransGrid Wavelength options	
 Interface option	OTN	Ethernet
 Service bandwidth	OTU-2	1G
	OTU-2e	10G
	OUT-4	100G
 Customer interface	OTU2/2e	1G
	P1I1-2D1 (2km)	1000BASE-LX
	P1S1-2D2b (40km)	10G
	OTU4	10GBASE-LR (10km)
	4I1-9D1F (10km)	10GBASE-ER (40km)
 Fibre type	Single Mode	100G
		100GBASE-LR4 (10km)
 Physical connector	Optical SC or LC	Optical SC or LC

# TransGrid

## Carrier Ethernet via nbn™ Enterprise Ethernet Access

TransGrid Carrier Ethernet (TGCE) is a scalable, reliable and feature-rich Layer 2 Carrier Ethernet network solution for all businesses. Working in conjunction with the nbn Co., TransGrid has further expand its national TGCE network coverage by leveraging the business nbn™ Enterprise Ethernet Service.

### Features & benefits



#### Scalable speed

nbn™ Enterprise Ethernet allows symmetrical bandwidth speeds of 10/10Mbps up to 1/1Gbps. This allows customers to scale their bandwidth to meet their requirements



#### Network reliability

Designed to deliver the data performance for critical business applications and comply with Metro Ethernet Forum (MEF) for highly reliable Layer 2 Ethernet connection with standardised service features that gives you the ability to carry different service attributes using one technology.



#### Enterprise grade service

A dedicated 27x7 service team supports a variety of Service Assurance options to suit your business needs



#### Deliver fast, highly reliable services

TransGrid's network offers low network latency

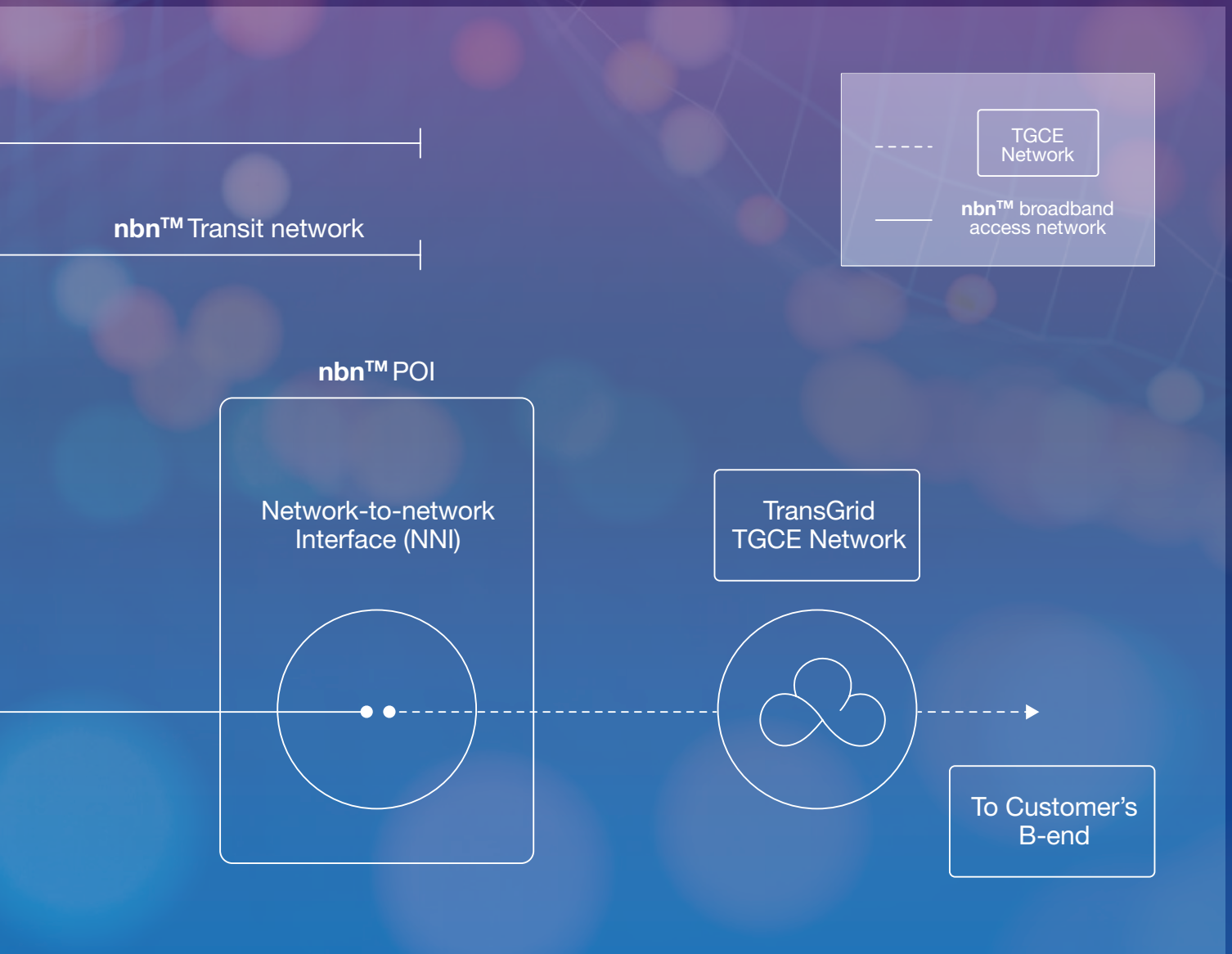


## nbn™ Enterprise Network



# TGCE via nbn™ Enterprise Ethernet Technical Specs

Attribute	TransGrid Carrier Ethernet options
Ethernet Type	EPL, EP-LAN, EVPL, EVP-LAN,
Service Bandwidth	CIR/EIR, 10Mbps up to 1Gbps
Class of Service	Three CoS Labels - L, M, H
Default MTU Size	9,000 bytes (Max.)
Layer 2 Control Protocol (L2CP) handling	L2CP Transparency
UNI Port Speed Negotiation	Auto or Fixed
TPID Values	0x8100, 0x88A8 and 0x9100
Service Assurance Options	Premium 4/6/8/12
Target Network Availability	99.95%
UNI Physical Interface	100Base-TX, 1000Base-TX, 1000Base-SX/LX



# TransGrid SD-WAN

TransGrid SD-WAN (TGSD-WAN) is an overlay Software Defined Wide Area Network service with centralized control functions that designed to help optimising Customer's network topology, minimize or eliminate network points of failure and latency regardless of the underlying transport services – including MPLS VPN, mobile 4G LTE, broadband internet or any combination of these services, resulting in enhanced user experience



## Basic SD-WAN Operation





### Features & benefits

Digitalisation and transition to Multi Cloud connectivity demands rapid changes in Customer's WAN architecture. TGSD-WAN software intelligently directs different types of traffic across the WAN based on priority, quality of service and security requirements in accordance with business needs



### Savings

Reduce Opex/Capex costs with application driven least cost routing capability, thus lowering the total cost of ownership



### Secure and highly reliable service

Improves network security by encrypting WAN traffic and segmenting the network to minimise damage if breaches occur. Optional virtual network infrastructure services available, such as firewall and WAN optimisation



### Scalability & Business Agility

Programmable network devices enabling new site be added quickly with zero-touch provisioning (ZTP), traffic performance be improved through dynamic best-path routing



### Automatic Load Balancing & Performance Monitoring

Centralised service orchestration and embedded software on virtual CPE (Customer Premises Equipment) monitors the conditions of all underlying carriage services enabling automatic load balancing and congestion management to optimise traffic performance





## TransGrid Co-Lo

TransGrid Co-Lo is in the business of vertical real estate. With a portfolio of over 37,000 communication and HV transmission towers across NSW and the ACT, customers can lease space on our towers to install their wireless communication equipment.

TransGrid's infrastructure is unique, offering "fibre in the sky" a network for backhaul support, secure buildings, access to power and ground space for shelters or an

### Our services:

- Colocation on HV and Telco infrastructure
- Build to Suit
- Constructions and installation
- Tower acquisition
- Backhaul



**To enquire about  
our services email**

[TG.Co-Lo@transgrid.com.au](mailto:TG.Co-Lo@transgrid.com.au)

## Why Choose TransGrid?



Fibre



Support



Performance



Coverage

- ✓ Established infrastructure asset with over 15 years experience
- ✓ Experienced team and network resources to meet your requirements
- ✓ High standard of quality control, procedure and service assurance process
- ✓ Specialist service provider of telecommunication services
- ✓ Bespoke solutions
- ✓ Extensive regional Point of Presence (POP)
- ✓ Secure and diverse network via Optical Ground to Optical Ground Wire (OPGW) network

**TransGrid**  
**Telecommunications**  
**More than a network**



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