



Fact Sheet

International Services

Global Internet Access (GIA)

Uncompromising global internet connectivity

Telstra Wholesale's Global Internet Access (TW GIA) service provides high-performance, superior quality internet access in the Asia Pacific region and direct connectivity to the US and Europe.

We offer one of the world's most extensively and diversely routed networks, covering 37 global Points of Presence (PoPs) in 14 countries. TW GIA uses a mixture of Cisco 7000 and 12000 series routers on the customer-facing border of its network.

With GIA our customers can:

- offer a high-quality, business-grade internet connection that is continuously available;
- easily expand their presence internationally without incurring the substantial costs and challenges of building and operating their own infrastructure.



Customer benefits	Product features
Cost effective	Expansion of international presence without capital cost.
Peace of mind	Reliability backed up by service level guarantees.
Extensive coverage	Direct access to 37 PoPs across the globe.
Flexible	Customised routing options to suit individual customer needs.

TW GIA



Features

- One of the world's most extensively and diversely routed IP backbone networks.
- Internet backbone offers 48.3 Gigabits of cable-based core international backbone capacity, over a single autonomous system network.
- Asia Pacific IP backbone offers over 13.6 Gigabits of bilateral peering with all other major IP network operators in the region. It also offers the fastest internet gateway to mainland China and Taiwan with over 9.1 Gbit/s capacity from Hong Kong hub.
- The US national network further complements the Asia-Pacific backbone by providing a high-capacity, high-performance platform for connecting traffic between the Asia Pacific and the US.
- Industry-leading service level guarantees based on provisioning, availability, packet delivery and transit delay.
- Flexible pricing options, either fixed or usage based.
- Access to online reporting.

Benefits

- A single source for a reliable global internet service.
- Choice of bandwidth from 64k through to Ethernet speeds of 1 Gbit/s.
- Choice of organising carriage service in conjunction with TW GIA.
- Customised routing options to enable our customers to meet the needs of their customers.
- Peace of mind and reliability backed up with service level guarantees.
- Direct access to over 37 PoPs across the globe.
- Extensive connectivity.

Coverage

TW GIA PoP list is provided in the following table:

Country	City
Australia	Sydney Perth
China	Beijing* Shanghai* Guangzhou
Hong Kong	Hong Kong
India	Mumbai** New Delhi
Indonesia	Jakarta
Malaysia	Kuala Lumpur
New Zealand	Auckland
Philippines	Manila
Singapore	Singapore
South Korea	Seoul
Taiwan	Taipei
Thailand	Bangkok
UK	London

*Off-net PoP

** Both on-net and off-net ports are available as selected in the order for the relevant GIA service

Prerequisites

TW GIA services are commonly ordered in conjunction with connecting carriage services (CCS) to backhaul Internet data from Telstra's PoP to the customer premises. A range of connecting carriage services can be provided based on location, bandwidth and scalability requirements.

A customer needs to have entered into a Global Master Services Agreement and have signed up for a Global Internet Access Service Schedule before ordering a TW GIA service.

WE OFFER ONE OF THE WORLD'S MOST EXTENSIVE AND DIVERSELY ROUTED NETWORKS COVERING 37 GLOBAL POINTS OF PRESENCE IN 14 COUNTRIES.

Configuration

TW GIA Premium Service enables in-country connectivity to any of Telstra's 37 global PoPs in 14 countries. This service is specifically designed to support mission-critical, revenue-bearing traffic and provides flexible support for access speeds from 64Kbits up to Gigabit Ethernet.

TW GIA off-net service gives customers a choice of competitively priced, direct internet connectivity in India and China via our local partners in these countries. This option will support access speeds from 2 Mbit/s up to 155 Mbit/s in India and 64kbps to 155 Mbit/s in China.

TW GIA service is also able to provide internet access in hard-to-reach locations that require direct connectivity to a major internet PoP. This is done by utilising satellite or global bandwidth services (GBS) and extending coverage to sites normally not deemed suitable for internet access.

TW GIA Economy is a cost-effective internet access service supporting fewer delay-sensitive applications, and is ideal for email and web browsing. TW GIA Economy is available in Indonesia, India, Philippines, Singapore and Thailand, and will support access speeds up to 2 Mbit/s.

Network Configuration

TW GIA offers one of the world's most extensively and diversely routed networks, covering 37 global PoPs in 14 countries. TW GIA uses a mixture of Cisco 7000 and 12000 series routers on the customer-facing border of its network.

- The Asia Pacific IP Backbone offers 13.6 Gbit/s of bilateral peering with all other major network operators in the region. It also offers the fastest internet gateway to mainland China and Taiwan with over 7.5 Gbit/s capacity from the Hong Kong hub.
- The US National network further complements the Asia-Pacific backbone by providing a high-capacity, high-performance platform for connecting traffic between the Asia Pacific and the US. It offers extensive peering arrangements with more than 38.3 Gbit/s of private peering and interconnection arrangements with backbone operators and content hosts.

Port Speeds and Interfaces Supported

Table 1: GIA Premium Service

Country	Port speeds and interfaces							
	Fractional T1 & E1	T1	E1	T3/DS-3	Ethernet/Fast Ethernet	ATM PVC	OC-3/STM-1	Gigabit Ethernet
	Nx64k	1.544 Mbit/s	2.048 Mbit/s	44.736 Mbit/s	10/100 Mbit/s	2-130 Mbit/s	155.52 Mbit/s	1000 Mbit/s
Australia	✓	✓	✓	✓	✓	✓	✓	✓
China								
Hong Kong	✓	✓	✓	✓	✓	✓	✓	✓
India	✓		✓	✓	✓		✓	
Jakarta, Indonesia	✓		✓					
Tokyo, Japan		✓	✓	✓	✓	✓	✓	✓
KL, Malaysia	✓		✓	✓	✓			
Auckland, New Zealand	✓	✓	✓	✓	✓			✓
Manila, Philippines	✓	✓	✓	✓	✓		✓	
Singapore	✓	✓	✓	✓	✓	✓	✓	✓
Seoul, Korea	✓	✓	✓	✓	✓		✓	✓
Neihu, Taiwan	✓	✓	✓	✓	✓		✓	✓
Thailand	✓		✓					
London, UK			✓	✓	✓		✓	✓
US		✓	✓	✓	✓	✓	✓	✓

Table 2: GIA Off-net Service

Country	Port Speeds and Interfaces							
	Fractional	T1	E1	T2/DS-3	Ethernet / Fast Ethernet	ATM PVC	OC-3 / STM-1	Gigabit Ethernet
	Nx64k	1.544 Mbit/s	2.048 Mbit/s	44.736 Mbit/s	10/100 Mbit/s	2-130 Mbit/s	155.52 Mbit/s	1000 Mbit/s
Mumbai, India				✓			✓	
New Delhi (planned)				✓			✓	
Beijing, China	✓	✓	✓	✓	✓	✓	✓	
Shanghai, China	✓	✓	✓	✓	✓	✓	✓	
Guangzhou, China	✓	✓	✓	✓	✓	✓	✓	

Table 3: GIA Economy Service

Country	Port Speeds and Interfaces							
	Fractional	T1	E1	T2/DS-3	Ethernet / Fast Ethernet	ATM PVC	OC-3 / STM-1	Gigabit Ethernet
	Nx64k	1.544 Mbit/s	2.048 Mbit/s	44.736 Mbit/s	10/100 Mbit/s	2-130 Mbit/s	155.52 Mbit/s	1000 Mbit/s
Mumbai, India	✓		✓					
New Delhi, India	✓		✓					
Jakarta, Indonesia	✓		✓					
Philippines	✓	✓	✓					
Singapore	✓	✓	✓	✓				
Bangkok, Thailand	✓		✓					

Peering

Telstra Wholesale can provide the most extensive Asia-Pacific regional peering network with bandwidth capacity over 10.2 Gbit/s connecting all the major markets in Asia.

In addition to 38.3 Gbit/s private peering and interconnection with major IP backbone operators and content hosts in the US, Telstra Wholesale also exchanges traffic via private peering with

about 17.4 Gbit/s access capacity into major network access providers in the US and around the world.

Routing Protocols

TW GIA supports two customer routing types:

- Border Gateway Protocol (BGPv4), designed to select the single best path. This allows efficient routes to be established and controls how networks are advertised to the rest of the internet.
- Static routing, where static routes are placed on the TW GIA routers.

Network Configuration

TW GIA can support both single-homed as well as multi-homed service providers. For single-homed customer network configuration, static routing is applied as default. For multi-homed customers, that is those with multiple upstream service providers, BGPv4 is also available if they are using a non-private autonomous system number in the peering configuration.

Pricing

A range of pricing tariffs are offered to suit specific requirements. A standard TW GIA service includes a set-up charge and an ongoing monthly usage charge.

- The set-up charge is incurred for each new service as a one-off charge for installation. Charges vary, depending on port type and access speed.
- Options for monthly recurring charges are:
 - Flat rate (\$ per Mbps per month) – a customer can pay a fixed rate for a pre-agreed set amount of bandwidth. Also referred to as an 'unlimited plan'.
 - Usage charge – a usage-type tariff where the monthly usage is represented as a flat rate (Mbps). The customer orders a base bandwidth with an agreed burst level. Usage is in effect the average port size required to support the customer's data usage for 95 percent of the time over the month.

Additional charges apply for local loop carriage service to backhaul internet data to the TW GIA PoP.

All plans can be customised to meet a customer's specific needs. Customised requests are priced on application.

Ordering

Order forms are available from a Telstra Wholesale account manager.

Completed and signed order forms are submitted to the customer's Telstra Wholesale account manager who checks the order and passes it on to the international operations support team to process.

Customers can also order the appropriate local loop carriage service at the time of ordering TW GIA. Additional charges will apply for local loop carriage service to backhaul internet data to the TW GIA PoP.

Any adds, moves or change requests are submitted through the order form. These include:

- changes to speed;
- change of interconnect method (ie from single to dual interconnect per location);
- relocation of service from one site to another.

All modifications to an existing TW GIA service should be faxed to the customer's Telstra Wholesale international operations support contact.

Billing and payment

TW GIA is billed in advance over a calendar month. Customers will be invoiced for TW GIA as per their nominated account, and payment arrangements will be detailed in the customer's Global Master Services Agreement.

Customers can utilise TW GIA to create or enhance their own internet access service. They can also purchase and rebill a TW GIA service direct to their end users, and this can be done in conjunction with the purchase of a connecting carriage service.

Delivery

Lead times for the TW GIA service are determined at the time of application. Customers may supply a target date, which Telstra Wholesale will endeavour to meet. If Telstra Wholesale is unable to meet that date, then we will advise the customer of the date we are able to commit to.

Estimated delivery time/ delivery dates:

- On acceptance of the customer's order, we will endeavour to provide a delivery date for a GIA port within five days of receiving a completed application form. For services of 10 Mbps and above, a feasibility study will be conducted before determining a delivery date, which may take longer than five days from receipt of the order.
- Local loop and carriage services vary in terms of delivery date and the account manager will contact customers at the time the order is processed with more details to facilitate the delivery.
- For adds, moves or changes five to seven days are usually required to process services below 10Mbps. Services above 10 Mbps will require a detailed feasibility study and the customer's account manager will contact them at the time the order is processed to discuss further details to facilitate the delivery.

The standard minimum term for TW GIA is 12 months. This may vary, depending upon contractual arrangements.

Operations and maintenance

As part of our welcome pack, a detailed fault management guide will be issued to the customer upon provision of the TW GIA service.

TW GIA is currently working towards offering its customers online access to service reporting. This will enable customers to view and analyse reports on network performance statistics or traffic profiles and have continuous access to available analysis tools.

Managing faults

The fault reporting guide given to customers upon provisioning of TW GIA services includes contact details and escalation path information for TW GIA service assurance.

TW GIA provides comprehensive service level guarantees (SGLs). These are based on the following four guarantees:

- a provisioning guarantee, which is designed to compensate customers in the unlikely event of the TW GIA service not being delivered by the date committed by Telstra Wholesale;

- an availability guarantee, which applies to a situation where the TW GIA port is not available as defined in the Global Master Services Agreement and TW GIA service schedule;
- a transit delay guarantee, which provides customers with a rebate should TW GIA be unable to meet average transit delay times. The average transit delay times for both TW GIA Premium and Economy services are summarised in the tables below:

Average Transit Delay Time for GIA Economy Services in milliseconds

Zone	Hong Kong to Asian countries	Hong Kong to Australia	Trans-Pacific	Trans-Atlantic	Domestic US
Delay	56	154	190	100	70

Average Transit Delay Time for GIA Premium Services in milliseconds

Zone	Intra-Asia	Hong to Asian countries	Hong Kong to Australia	Japan to US	Trans-Atlantic	Domestic US
Delay	120	56	154	125	100	70

Note: Direct connectivity provided via our local partners in India has an average transit delay time of 345 milliseconds on the India to US route.

- a packed delivery guarantee, which provides customers with a rebate should the average packet delivery in a defined zone be below 99 percent, as defined in the Global Master Services Agreement.

Related products

TW GIA is used with the local loop carriage service. Telstra Wholesale can assist with organising appropriate carriage service in addition to TW GIA. Customers can bundle the carriage service with TW GIA to offer a solution that is suitable for their customer's size, industry and budget.

More information

Existing customers should talk to their Telstra Wholesale account manager for further details. More information is also available at www.telstrawholesale.com.

