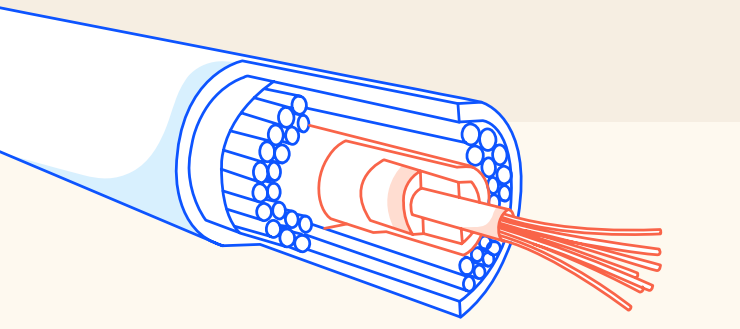


# Telstra InfraCo Dark Fibre

Discover your potential on our network



## What is Telstra InfraCo Dark Fibre?

Dark fibre is an unlit fibre optic pair running between two points, an A site and a B site. This fibre becomes active and transmits data when connected to service provider equipment, giving you control over your network.

With low latency and the ability to support high speeds, Telstra InfraCo Dark Fibre grants you the power to meet your business' changing needs. Discover unlimited potential with Australia's most extensive and growing fibre footprint to create your own digital infrastructure.

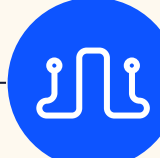


### Lit Fibre service

Service provider network  
(Including other transmission equipment)

Service provider equipment Site A

Service provider equipment Site B



Fibre terminating unit Site A

Fibre terminating unit Site B

### Dark Fibre service

Dedicated fibre




# Dark Fibre product variants

Our products are designed with flexibility and customisation in mind, ensuring they can perfectly fit the unique needs of your business.




**Premise (Prem)**




**Non-Premise**



**NBN Point of Interconnect (POI Ring)**



**Data Centres (DC)**



**Long Haul**

## Unlit optical fibre

Pair between at least one Premise

Pair between at least one Non-Premise

Pair between at least one POI

Pair between at least one data centre

Path that requires amplification at Telstra InfraCo fixed network sites

## Possible connections

DC – Prem, Prem – Prem, POI – Prem, Fixed network site – Prem

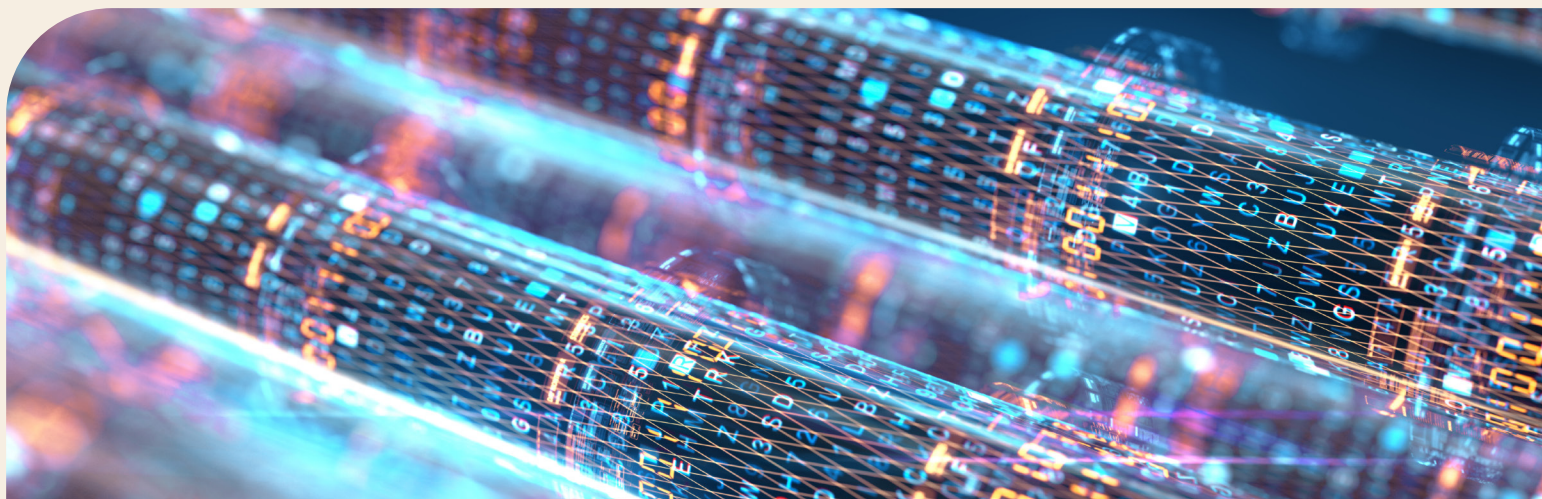
Available in metro city areas only. Possible connections include: Premise to InfraCo Pit, InfraCo Pit to InfraCo Pit or another external site (e.g. traffic lights, CCTV cameras). Fee for service required for services beyond the InfraCo pit.

POI – POI, DC – POI, POI ring

DC –DC, POI - DC

DC-Fixed network site (Amplification)-DC

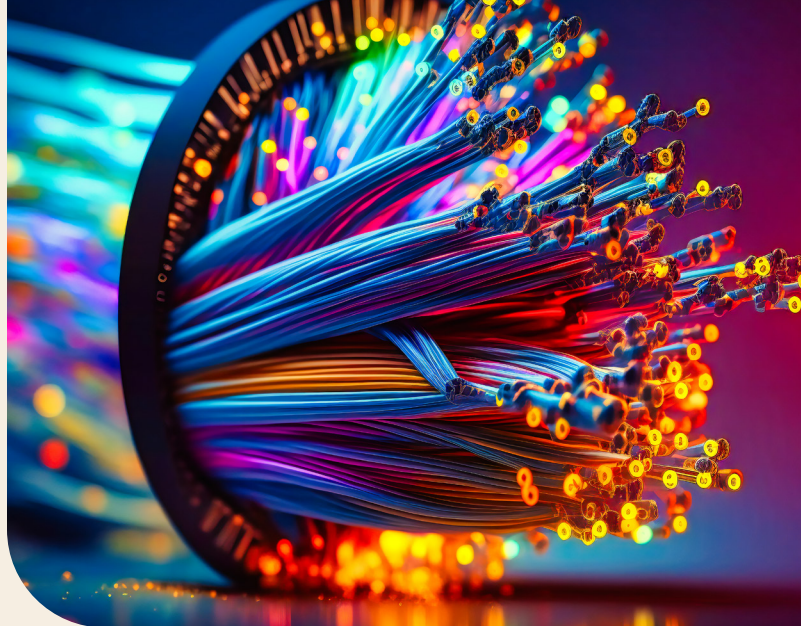
NBN POI-Fixed network site (Amplification)-DC



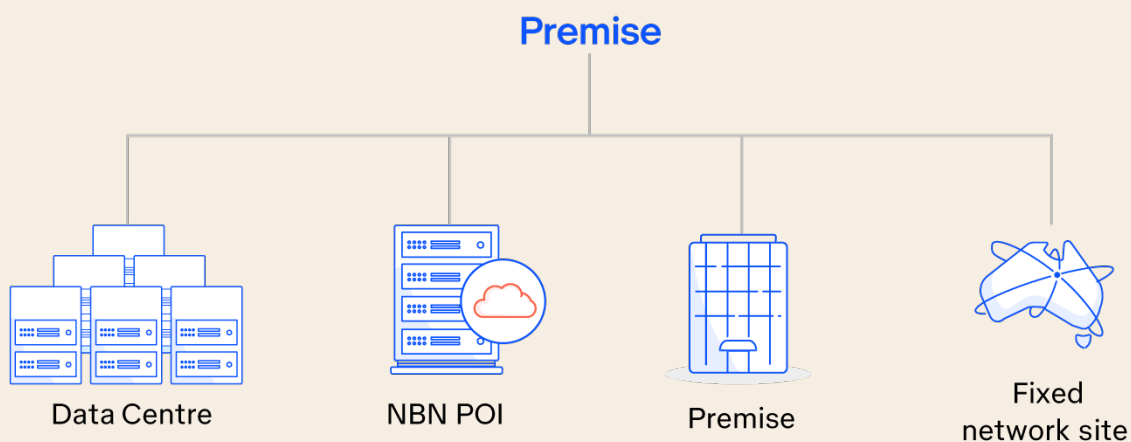
# Premise

Telstra InfraCo Dark Fibre Premise is a fibre optic cable infrastructure that runs between two or more termination points within a customer's premises. It provides a dedicated and unlit optical fibre pair that can be connected to a service provider's equipment to activate and transmit data.

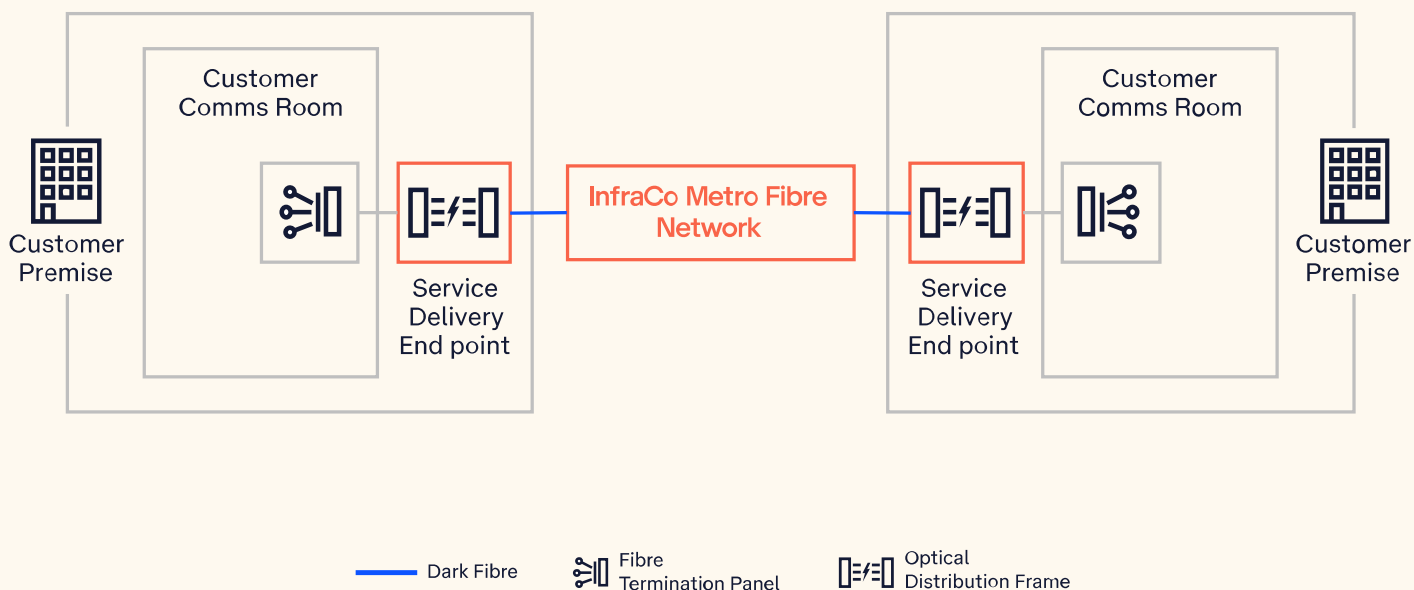
The solution offers a high level of customisation and control over communication networks, allowing you to build a network specifically tailored to your unique business needs and requirements.



## Possible connections



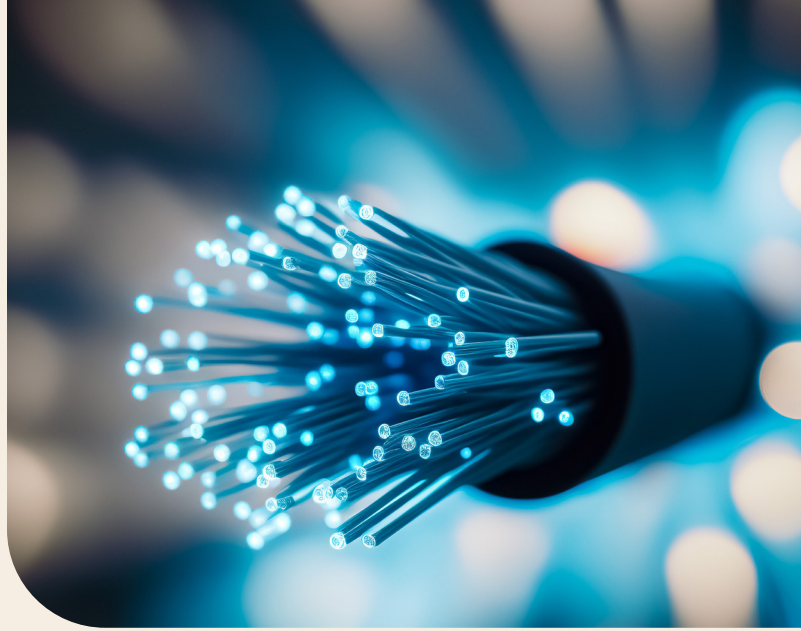
## Architecture



# Non-Premise

Telstra InfraCo Dark Fibre Non-Premise is a customer-specific solution designed with customisation in mind to fit your unique business needs.

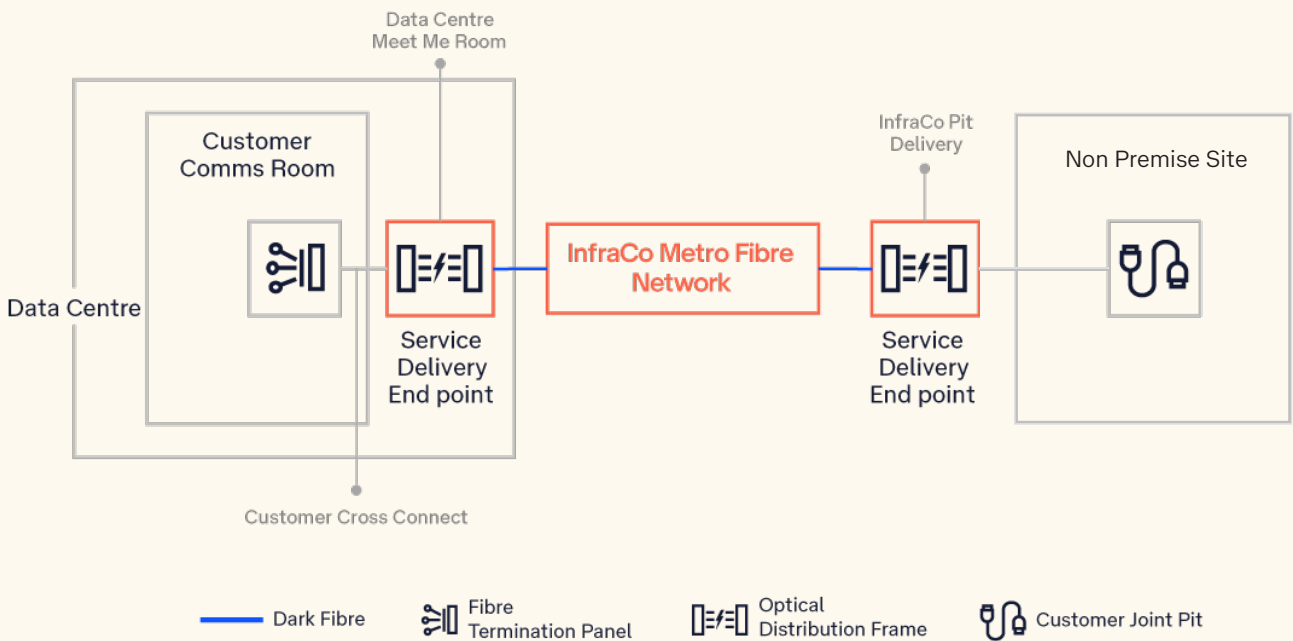
It is an unlit single mode optical fibre pair between two optical termination points located at an A-end and a B-end, with at least one end being an external site (Non-Premise).



Possible connections



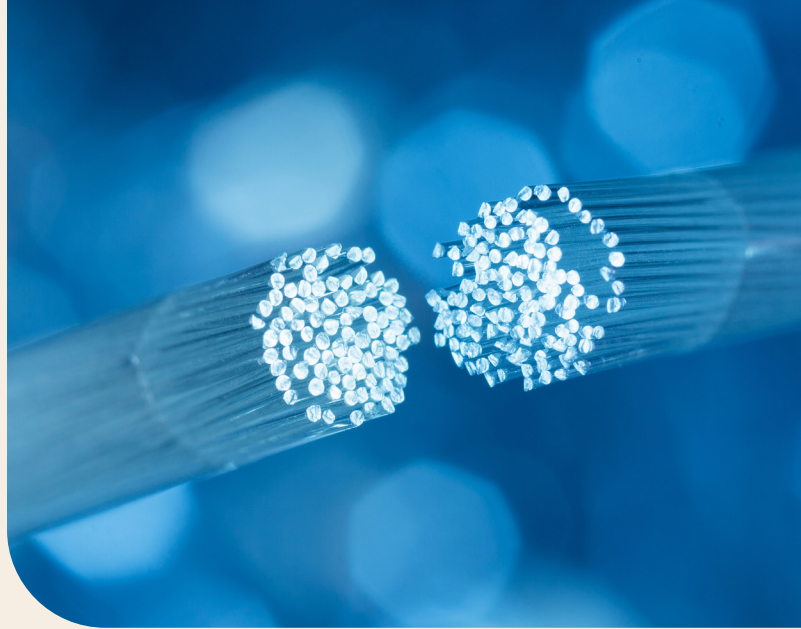
## Architecture



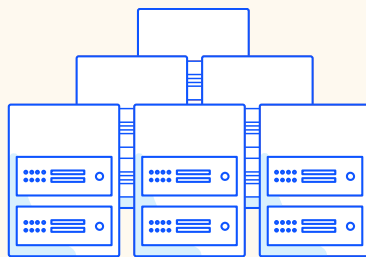
# Point of Interconnect (POI) Ring

Telstra InfraCo Dark Fibre POI Ring is a solution that establishes fibre paths between NBN POIs and data centres. The rings reach 90 metro POIs across 6 capital cities to form a resilient and cost-efficient network topology.

With low latency, inbuilt redundancy and the ability to customise your solution.



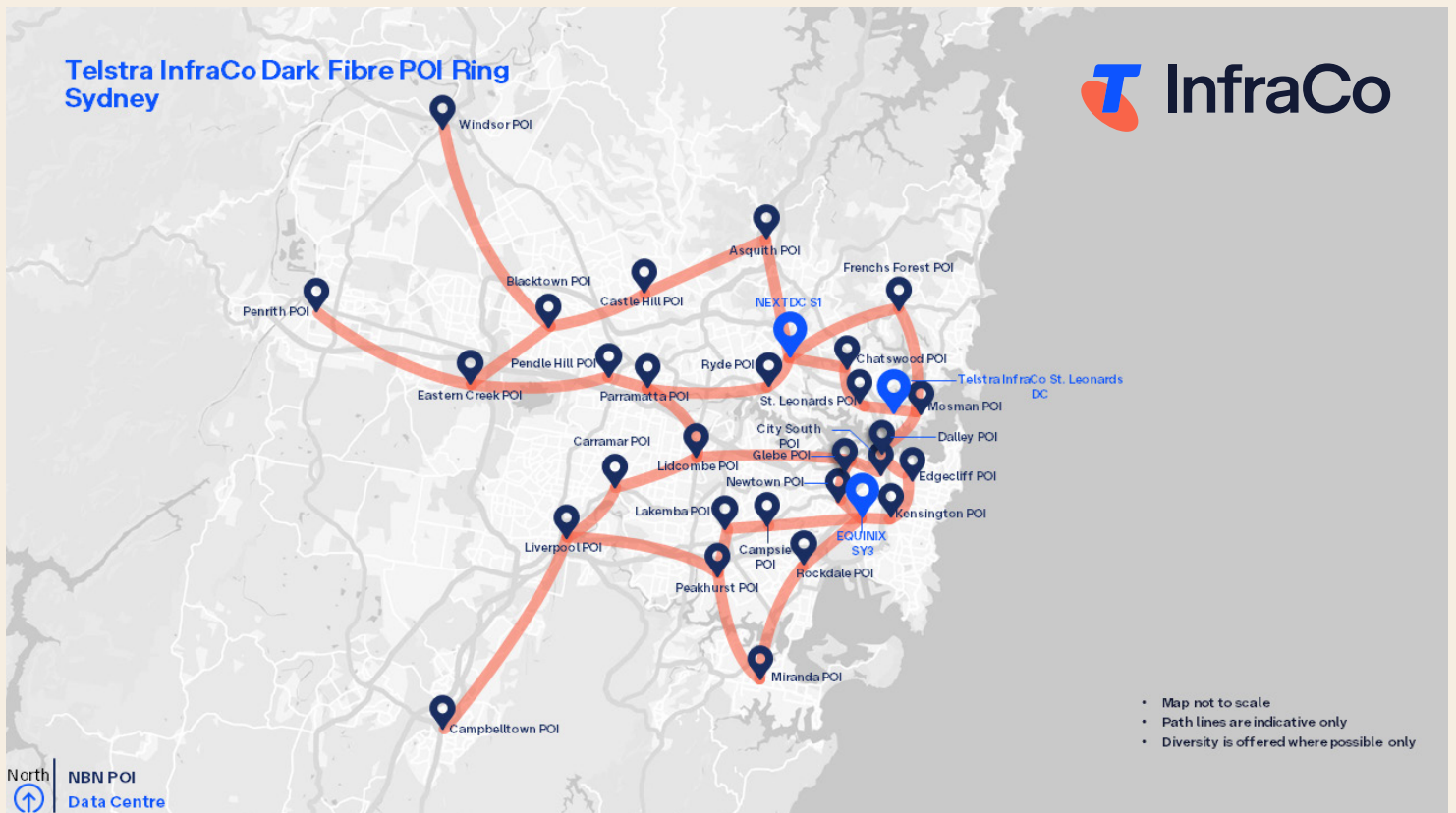
**90** NBN POIs



**86** Data Centres



**06** Capital cities



# Data Centre Interconnect (DCI)

Telstra InfraCo Data Centre Interconnect services use our extensive dark fibre network to connect externally to data centres, allowing customers to locate approved customer equipment in rack/s.

## Service elements:



### Facilities

Provision of powered racks with high availability power and cooling.



### Connections

Between equipment and other services in the data centre, including connections to other carriers.



### Building and access security

A secure building and facility, managed to the rack level.



### Customer support

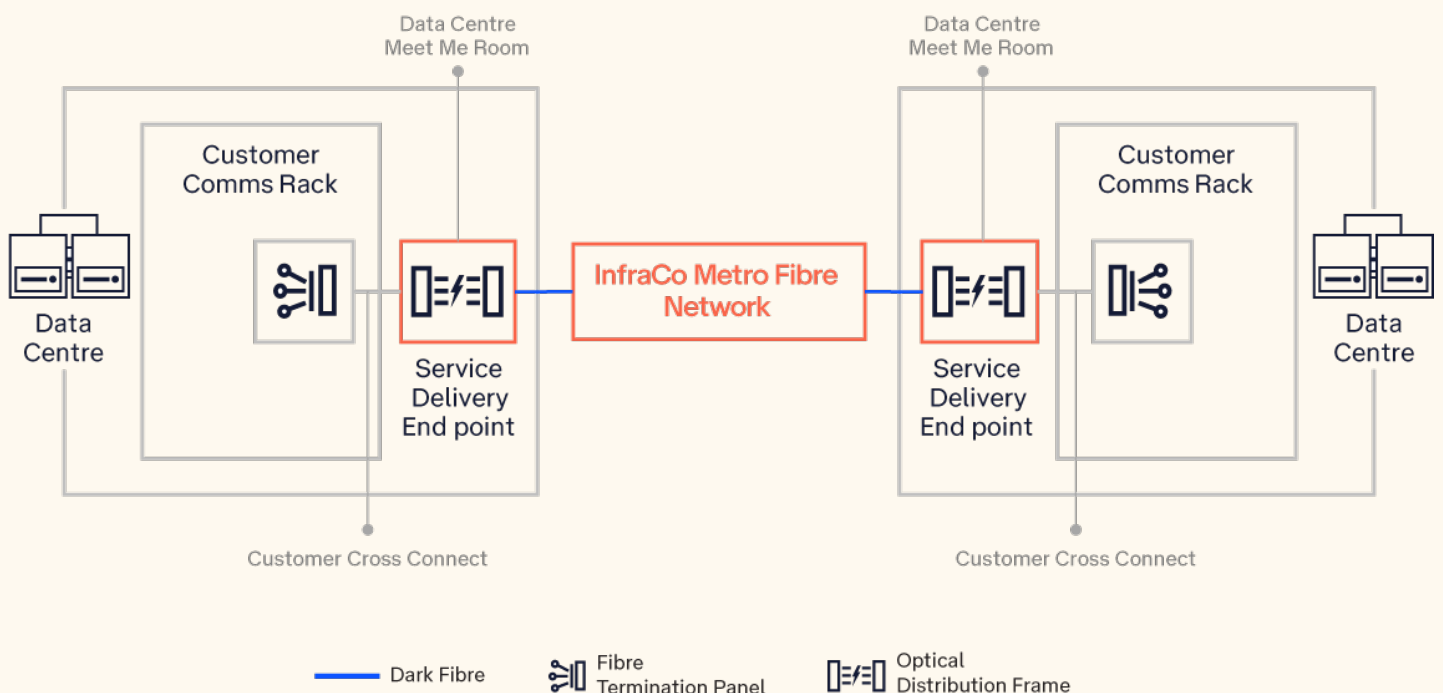
InfraCo operates a front of house help desk 24/7 and support is also available via the online self-service portal.



### Professional services

Includes installation, decommissioning and equipment relocation.

## Architecture



# Telstra InfraCo

## Long Haul

Telstra InfraCo Long Haul provides the ability to connect across long distances extending from capital cities to non-capital cities. Long Haul consists of individual Dark Fibre services connected by customer owned amplification equipment at Telstra InfraCo fixed network sites, leveraging the Network Building Colocation product.



### What is Dark Fibre?

Dark Fibre is an unlit fibre optic pair running between two points, an A site and a B site. This fibre becomes active and transmits data when connected to service provider equipment, giving you full control over your network.

### What is Network Building Colocation?

InfraCo Network Building Colocation is an equipment rack colocation product located in selected fixed network sites. Telstra InfraCo provides a 600x600 equipment rack with power provision of up to 1.5kW, fibre tray, power distribution panel, cross-connect and electronic lock.

### Possible Connections

#### DC to DC

e.g. Equinix SY1 to Equinix SY7

#### DC to POI

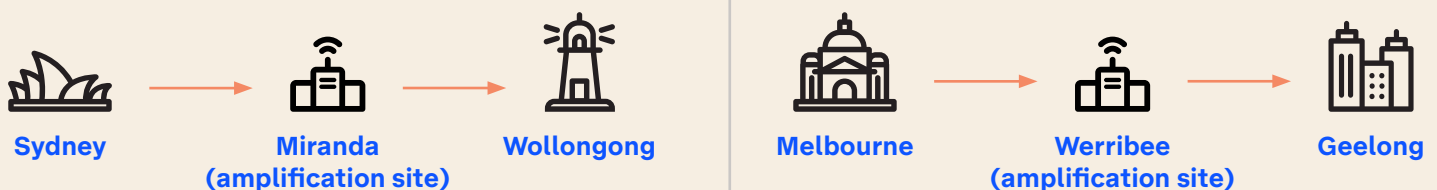
e.g. NEXTDC S1 to Wollongong POI, Equinix ME1 to Geelong POI

#### POI to POI

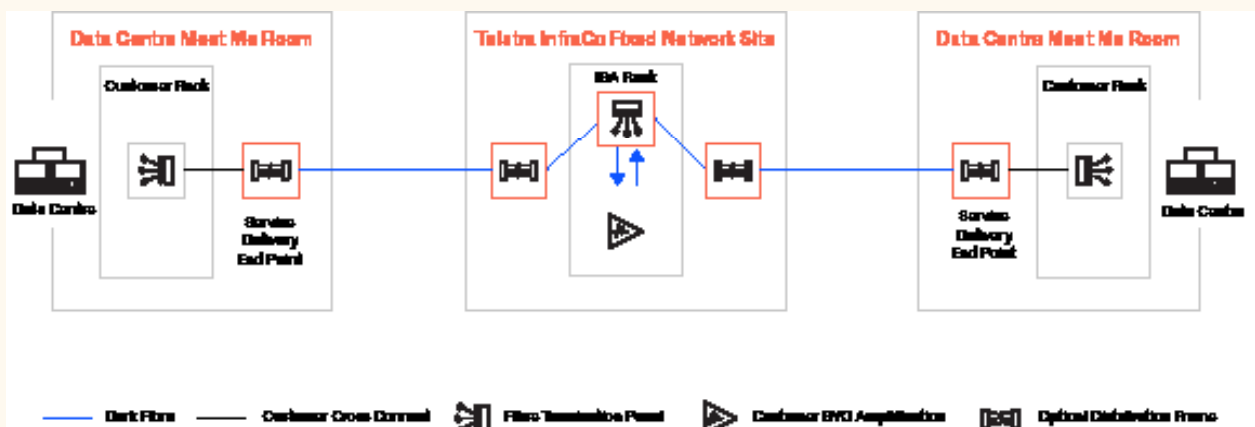
e.g. Eastern Creek POI to Wollongong POI

Possible connections include but are not limited to the paths listed above

Our standard product offering comprises of multiple initial predefined paths across:



### Architecture



# Features & benefits of Dark Fibre



## Dedicated fibre connection

Have exclusive use of the fibre pair over the route, ensuring the ultimate performance and capacity.



## Control over your network

Manage your network capacity and speed to ensure you make the most of your service.



## Customisable

By bringing your own equipment, you have the flexibility to configure your network your way.



## Terms 3 or 5 years

Know what you're paying with the benefit of fixed term pricing, making your monthly costs more predictable.



## Per Fibre Pair

Each pricing/quote includes 2 fibre pairing.



## Fixed price quotes

Have the certainty of a fixed price when talking to us.



## Security

Peace of mind with dedicated fibre pairs, only used by you.



## Monitoring

Real time monitoring of fibre which enables predictive and preventative action and rapid fault isolation.





## InfraCo Dark Fibre technical sheet

Fibre Feature	Dark Fibre (excl. Intercity)
Optical Attenuation	
Maximum Fibre Loss @ 1310nm	0.35dB/km
Maximum Fibre Loss @ 1550nm	0.20dB/km
Maximum Fibre Loss @ 1625nm	0.23dB/km
Optical loss per splice	0.10dB average
Maximum Connector Loss	0.20dB per connector 0.62dB per connector (Opti-Tip MT Connector only for Non-Premise sites)
Bands	O (1310nm) C (1550nm) L (1625nm)
Standards	ITU-T G.652.D and ITU-T G.657.A2
Cable Cut-off Wavelength cc	1260 nm
Typical Polarisation Mode Dispersion (PMD)	0.1 ps/ $\sqrt{\text{km}}$
Diversity options:	The Telstra InfraCo Dark Fibre is a non-diverse service. To achieve path diversity, two separate services may be ordered, with a request that they be designed over diverse geographic paths.

# Telstra InfraCo

## Intercity Dark Fibre network

Over the next five years to 2027, Telstra will be boosting its national fibre network, with new fibre paths being installed across the country. The project is set to improve the reach and size of our existing extensive optical fibre network. The new fibre paths will boost capacity and speed to meet the needs of tomorrow's connectivity.

Building upon the existing fibre network and leveraging substantial sub-sea routes, the new fibre technology will enable ultrafast connectivity between capital cities as well as into regional and remote communities.

Using leading ultra-low loss technology and strategically positioned amplification sites, the hyper-connected network will support remote working and education, health services, high-definition entertainment consumption and online gaming and IoT applications for mining and agriculture.



### Express network

An ultra-low loss fibre (Corning SMF-28 ULL wAB) for the new Intercity fibre

### Foundation network

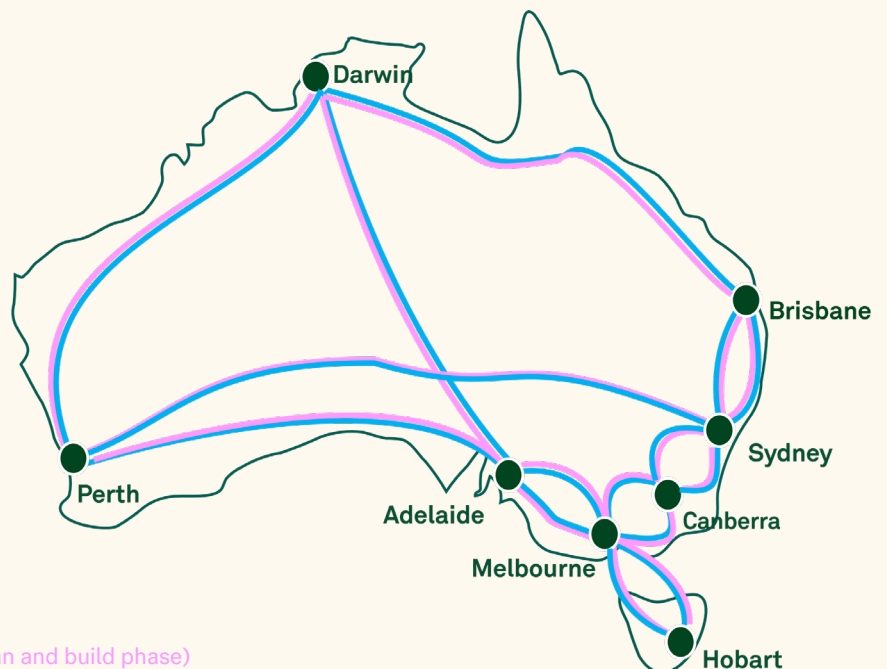
A low-loss fibre (Prysmian BBA2) for renewal/upgrade of the existing, original fibre

Telstra Cable



— Express network path (in plan and build phase)

— Foundation network path (in plan and build phase)



# Features & benefits



## Express network

Will enable direct high-data fibre connectivity between capital cities (with no breakouts).



## Fast speeds

Express transmission between Australia's biggest cities with target speeds of up to 650 Gbps per channel which can equate to more than 50Tbps per fibre pair.



## Accessibility & resiliency

National ramp will enable break out approx. every 5km at every optical joint/building. Equating when built to approximately 4000 ramp on and off points nationally to enable break out colocation without interfering with the network.



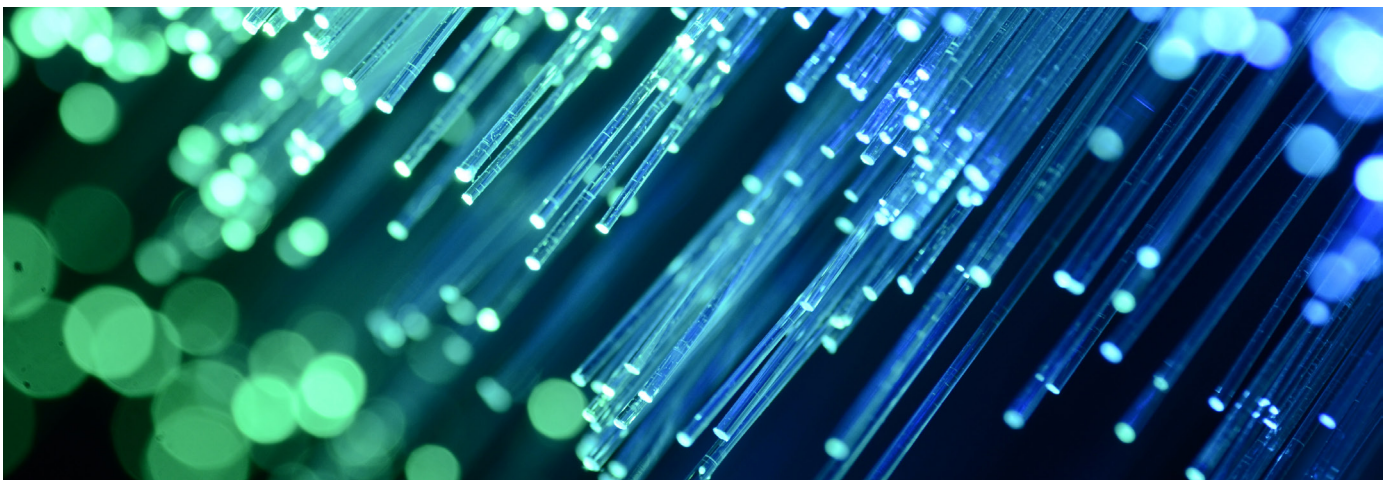
## Durability

Cable design is proven to withstand Australia's harsh environmental conditions and will reduce carbon footprint.



## Monitoring

Real-time optical fibre performance metrics that enable predictive action and rapid fault localisation.





## InfraCo Intercity technical sheet

Fibre Feature	Express (Ultra – Low Loss )	Foundation (Low Loss)
Optical Attenuation		
Maximum Fibre Loss @ 1550nm	0.16dB/km	0.18dB/km
Maximum Fibre Loss @ 1625nm	0.18dB/km	0.22dB/km
Optical loss per splice	0.05dB average 0.1dB maximum	0.05dB average 0.1dB maximum
Maximum Connector Loss	0.15dB per connector	0.15dB per connector
Bands	C (1550nm) L (1625nm)	Full Spectrum
Standards	G.654.C with macro-bend conforming to G.657.A1 G.650-2 Appendix IV	G.657.A2 G.652.D
Wavelength Capacity (based on Ciena 6500 WL5e-Melbourne –Sydney)	43 x 600G C-Band 42 x 600G L-Band	43 x 550G C-Band 42 x 550G L-Band
Cable Cut-off Wavelength cc	1520 nm	1260 nm
Typical Polarisation Mode Dispersion (PMD)	0.04 ps/ $\sqrt{\text{km}}$	0.1 ps/ $\sqrt{\text{km}}$
Diversity options:	2 fibres (1 pair) single path in a route- non diverse 4 fibres (2 pairs) using 2 geographical paths on a route - diverse (to be requested in the order confirmation)	

# Accelerate your opportunities with Telstra InfraCo's diverse telecommunications infrastructure



## Field teams around Australia

We support your business with our comprehensive operations teams throughout Australia.



## Existing connections to more places

Connect your site to assets including a network of over 250,000 kilometres of fibre, links to 133 third party and Telstra owned Australian data centres, and more than 400,000 kilometres of sub-sea cables.



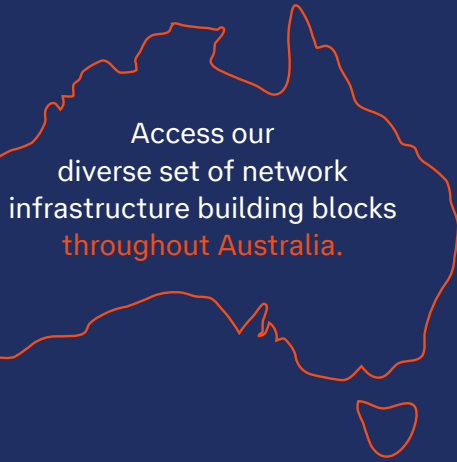
## Decades of infrastructure expertise

Our decades of experience in infrastructure design, construction, customisation, protection and project management tells us what works on the ground.



## Colocation sites throughout Australia

We have thousands of fixed network sites across Australia and we are opening up key sites for customers to use at the edge with their choice of network provider.



We offer everything you need to build your infrastructure your way, from equipment rooms and data centres to fibre and internet connectivity.

