

Wavelength

High bandwidth connectivity

New generation of business and consumer applications are driving complex and diverse demand on bandwidths. Telstra Wholesale's Wavelength service caters for the increasing need for high capacity backhaul and reliable performance, with optional proactive monitoring to ensure a highly robust data transport solution.



Wavelength overview

Our Wavelength service provides high bandwidth, point-to-point connectivity between network points of presence (PoP). Based on DWDM technology, the solution can provide you additional bandwidth efficiently as needed.

Delivered over Telstra's diverse and reliable optical fibre network and planned expansion of our Wavelength product to our new Inter City fibre routes utilising our ultra-low loss Corning® fibre, our Wavelength service offers bandwidth options of 1Gbit/s Ethernet, 10Gbit/s Ethernet and OTN, 100Gbit/s Ethernet and OTN, 400Gbit/s Ethernet¹, in capital city metro areas, along inter-capital routes and in major regional areas².

Wavelength services offer a cost-efficient way to connect to National Broadband Network (NBN) Points of Interconnect (POI) at high bandwidths both in metro and regional areas.



Using Wavelength

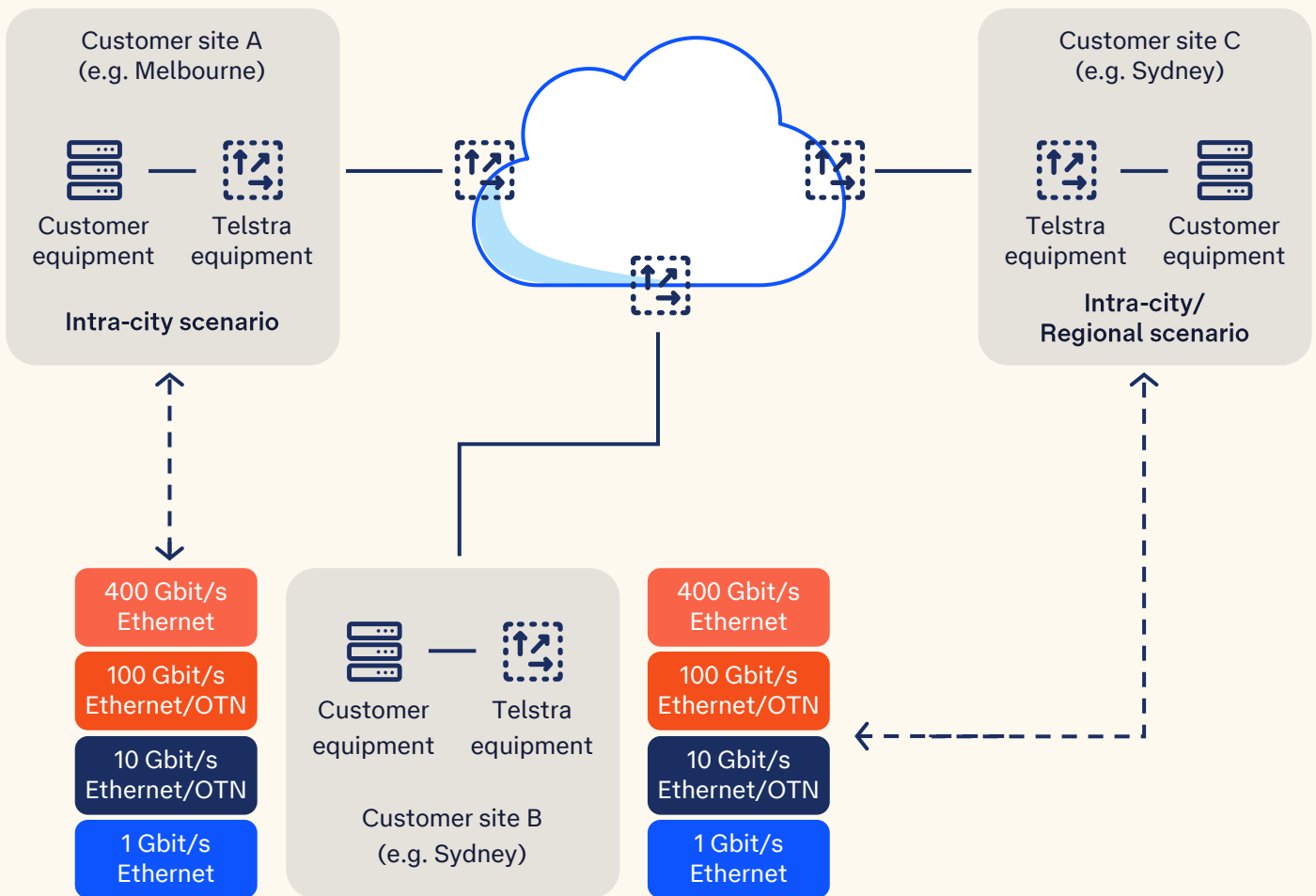
Our Wavelength service is ideal for Carriers, Systems Integrators and Service Providers seeking high bandwidth backhaul between their major PoPs and data centres. It offers:

- Fixed backhaul for DSLAMs & NBN POIs
- Mobile backhaul between major hub sites
- Core transport between customer PoPs and data centres
- A cost effective and low latency solution for delivering high bandwidth, point to point connectivity
- Protected service topology with a target of 99.95% Service Level Availability (SLA)³, where protection switching typically occurs in sub 50ms
- Unprotected service topology with Core Restoration with a target of up to 99.8% SLA
- Unprotected service topology with a target of 99.7% SLA³



Wavelength

Telstra regional or intercapital network



Wholesale Wavelength Core Restoration



Wavelength Core Restoration

Core Restoration, is a new resiliency option for Wavelength Services. In the event of a fault or fibre cut, the 'Core Restoration' feature automatically re-routes your wavelength service to an available intercapital path in the core network. It uses the Layer Zero Control Plane Technology and can provide an added layer of resiliency to your network.

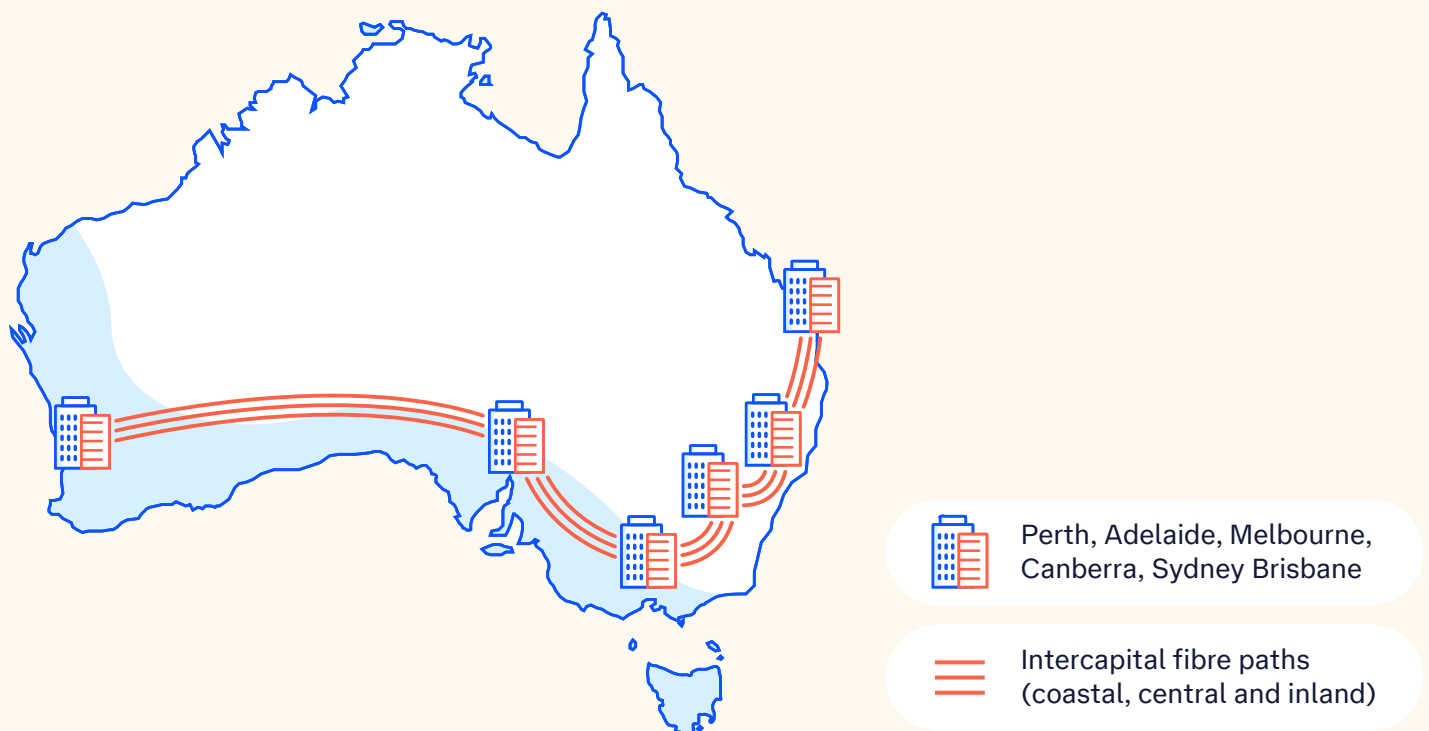
The feature is available on new single access Wavelength service connections with bandwidths of 100Gbps or 400Gbps across 6 intercapital routes. It's aimed at customers who want to reduce the risk of disruption from outages in the core network and reduce downtime if an outage occurs.

Available on Intercapital routes

Core restoration is available on intercapital routes from Perth all the way to Brisbane via capital cities; Perth, Adelaide, Melbourne, Canberra, Sydney, Brisbane.

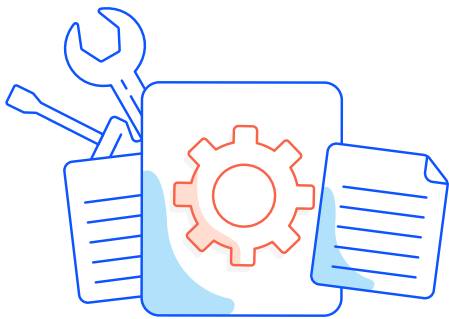
There are 3 intercapital fibre paths, Coastal, central and inland that can be used for resiliency.

When the Coastal Core Route is faulty at a location, all traffic between the closest two capital cities, will re-route to the restoration path providing peace of mind.





What do I need to know?



How core restoration works

Core Restoration is available on new Wavelength services.

In the event of a fault, Core Restoration will automatically restore your services traffic to a pre-determined restoration path.

The restoration procedure takes between 3-15 minutes, this is designed to reduce the impacts and disruption to your business. Providing you with peace of mind.

Email notifications will keep you informed as restoration occurs. There is no need to report a fault as all this happens automatically.

Traffic is restored back to home path once fault is fixed in the next maintenance window. Typically, out of hours between 12:00AM at night and 6:00AM in the morning.

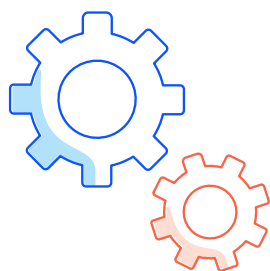


To receive restoration emails, you will need to subscribe to notifications in the TW Hub.

How Wavelength can benefit your business



- We offer a point-to-point service with bandwidth options of 1Gbit/s, 10Gbit/s, 100Gbit/s OR 400Gbit/s¹.
- With dedicated bandwidth, you can easily and confidently service a full suite of high bandwidth demanding applications.
- Wavelength services offer a cost-efficient way to connect to National Broadband Network (NBN) Points of Interconnect at high bandwidths both in metro and regional areas.
- Our fibre network coverage enables you to access diverse geographic markets and receive quality support from Telstra Wholesale.
- Telstra's 24x7 Global Operations Centre (GOC) provides capability for end-to-end network monitoring, maximising uptime and provides a great customer experience.
- You've got the option of proactive monitoring around the clock, to give you that extra confidence in your service availability. You can have peace of mind that your network is proactively being taken care of, while you focus on servicing your customers' needs.

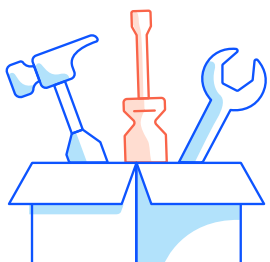


Getting connected

You can order Wavelength through the standard ordering process, via LinxOnline Ordering™ (LOLO®). If you don't have access, ask your Account Manager to get you set up.

Provisioning lead times will depend on the type of service you're ordering and where it is geographically located.

You'll find indicative lead times and activation processes in our Ordering and Provisioning Manual (OPM), available from your Service Manager.



Operations and maintenance

Wavelength is covered by a standard service assurance option, providing one hour response and 12 hours restoration target on customer fault reported.

Enhanced assurance options are available at additional cost.

You can log faults anytime using TW Hub or by calling the Telstra FRC on 180 22 88 and selecting "2" (or such other number that Telstra may advise from time to time).



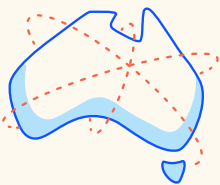
What you can expect when you choose **Telstra Wholesale for your wavelength services**

As always, when you are transitioning on to a new platform or employing a new solution, we understand the need for reassurance and certainty.



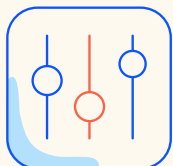
Our experienced people

Telstra Wholesale offers an experienced and skilled team of dedicated specialists to help identify the Wavelength solution that best suits your needs. As an experienced supplier of backhaul services, we can tailor a backhaul migration path and rollout plan that meets your needs and minimises any network down time.



Our unrivalled network

We're in the places where you need us, with national coverage across all networks and over 800 exchange areas supporting our Wavelength product. We pride ourselves on our consistency, service assurance and the cost efficiencies that we can drive from our market leader position as a supplier of wholesale data products.



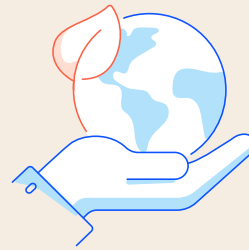
Our superior systems

Our proven, integrated systems capabilities and operational support help you manage your business needs with a range of online tools that help you price, order, support and review the ongoing performance of your Wavelength services.



Product specifications – product attributes

Product	Wavelength
Bandwidth options	1Gbit/s, 10Gbit/s, 100Gbit/s and 400Gbit/s (Ethernet) OTU2/2e and OTU4 (OTN)
Coverage⁴	Metro Inter-Capital Major Regional NBN POIs
Service availability target^{1,3}	99.7% (Unprotected) Up to 99.8% (Unprotected with Core Restoration) 99.95% (Protected)
Resilience	Unprotected Unprotected with Core Restoration Protected
Proactive Monitoring	Options for 24/7 proactive monitoring and fault repair (if needed) by a dedicated team at our Global Operations Centre
Interfaces supported	400GBase-LR4/FR4 100GBase-LR4 1000Base-SX 850nm MMOF 1000Base-LX 1310nm SMOF 10Gbit/s E LR/LW 1310nm SMOF 10Gbit/s ER/EW 1550nm SMOF
Topology	Point to Point
Access technology	Fibre (DWDM)



Product specifications – environmental attributes

Service Delivery Point Equipment Requirements	
AC supply	240 V single phase
DC supply (alternate where available)	– 48 VDC nominal
Operating temperature range	10 to 35 degrees Celsius
Rackspace requirements	<p>You will need to accommodate for the minimum or maximum rack space and appropriate AC or DC power feeds depending on the interface type:</p> <p>Minimum rack space requirement is 350mm (W), 600mm (D), 1800mm (H)</p> <p>Maximum rack space requirement is 600mm (W), 600mm (D), 2200mm (H)</p>

¹ 400Gbps services are available on the eastern seaboard (Melbourne, Sydney, Canberra, Brisbane and Adelaide). They are available in an unprotected service topology only.

² Subject to feasibility study and approval.

³ Target availability for Wavelength is based on a rolling 12-month period. Telstra makes no guarantee or representation about the actual availability of Wavelength.

⁴ Coverage is subject to feasibility study and approval.