

Bi-Directional Optical Transceivers

LINX is offering a new fibre service to members which utilises the benefits of Bi-Directional Optical Transceivers.

What is a Bi-Directional Optical Transceiver and How does it work

When connecting to the London Internet Exchange most members will connect using a fibre pair or cross connect. One fibre is dedicated to receiving data from network equipment and the other fibre will be dedicated to transmitting data to the network. Bi-directional optical transceivers (or Bi-Di transceivers for short) allow both the transmitting and receiving of data on a single fibre.

This is achieved by splitting the light into different wavelengths using wave division multiplexors (WDM). Bi-Di transceivers must work as a matched pair having the correct receive and transmit wavelength.

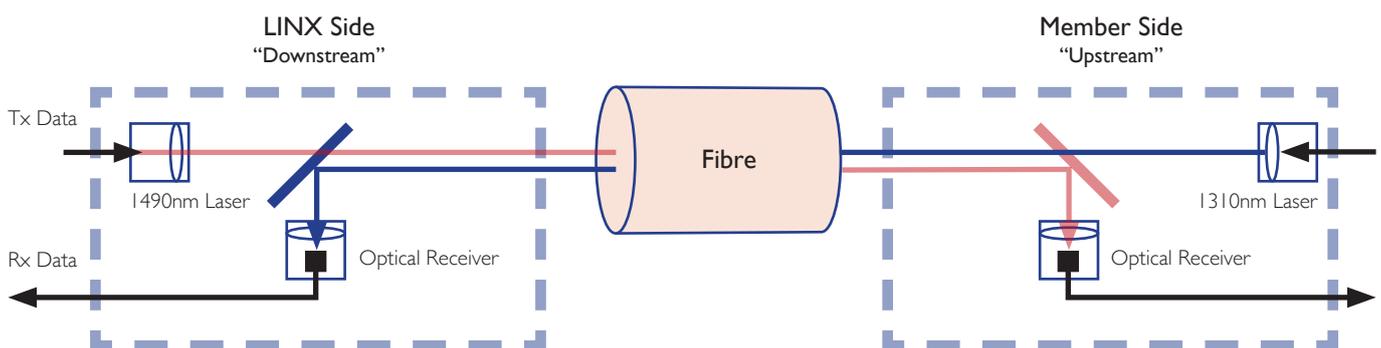
Usual naming convention has one device referred to as upstream and one as downstream. For delivery of the LINX Bi-Di product LINX will always be the downstream device. The member will have to purchase the corresponding downstream device. The wavelengths of its Bi-Di transceivers are as shown in the table on the right.

Benefits of Bi-Directional Optics

- Reduced interconnect costs
- Double the capacity of each cross connect
- Optical Distribution Frame (ODF) port reduction
- Conduit space saving
- Ports charged at the same rate as traditional optics

Port Size	Member Side "Upstream"		LINX Side "Downstream"	
	Transmit (nm)	Receive (nm)	Transmit (nm)	Receive (nm)
IGE	1310	1490	1490	1310
IOGE	1270	1330	1330	1270

Bi-Directional Optical Transceivers in use



Further Information

About LINX

The London Internet Exchange (LINX) was founded in 1994 to facilitate the exchange of traffic between Internet service providers.

An important element of global Internet traffic is called 'peering', which is usually the settlement-free exchange of traffic between individual service and content providers. LINX was established to facilitate peering, and has done so very successfully. A key element of this is our mutuality - LINX is owned by the entities that it serves.

LINX is a not for profit Internet exchange. Before LINX was founded, most of the traffic between UK service providers was exchanged in the USA, which is both inefficient and a costly way of doing it. LINX's mission was therefore to keep traffic local - and it did this originally in London, as one of the world's first not-for-profit Internet exchanges. Keeping traffic local has been responsible for many of the improvements in Internet services that we have all come to rely on. This has contributed to the general improvement in the Internet services that we, as end users, are familiar with. Our mission was, and is, to work for the good of the Internet and to 'keep traffic local'.

LINX originally grew and prospered in London, where we have a very extensive network, spanning many different data centres. LINX's backbone network in London means that our members have a choice as to where they connect. We realised, however, that this success in London was perhaps inhibiting the establishment of peering points in the rest of the UK, so with the active support of our members, we put in place a UK regional peering strategy to address this which now includes networks in the north-west of England (IXManchester), Edinburgh (IXScotland), Wales (IXCardiff) and LINX NoVA in Northern Virginia, USA.

Bi-Directional Optical Transceiver availability at LINX

Currently, bi-directional optic services from LINX are only operational at the IXManchester regional exchange in the north-west of England. There is an expectation that this product will be rolled out to all LINX exchanges, including both London LANs, in the future but this is dependant on demand.

Port Size	Location					
	IXManchester	IXCardiff	IXScotland	LONI	LON2	LINX NoVA
IGE	Available	N/A	N/A	N/A	N/A	N/A
IOGE	Available	N/A	N/A	N/A	N/A	N/A

**The two connected ports will be on the same edge router and will have to be of the same size. Members are also reminded that in effect the ports are connected via the same fiber pair and therefore should not be used to deliver resilience to a network.*



For further information on
LINX Bi-Directional Optical Transceivers
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