



What is a Leased Line?

A leased line is a dedicated, fixed-bandwidth, symmetric data connection used to connect 2 locations/buildings with a fast reliable data connection for Data, Voice or Video.

Dedicated -

This means that all along the route of your leased line, the bandwidth you need has been reserved solely for your use. Unlike consumer Internet connections, the bandwidth available does not fall at peak times, when other customers of the same ISP try to use their connections at the same time as you.

Fixed-bandwidth -

Leased Line circuits typically come in a fixed speed connection on a fixed speed bearer i.e. 10Mbit on 100Mbit bearer. This gives the ability to choose the required capacity & maximum growth possible - in our example you would receive a 10Mbit connection between the 2 locations with the ability to increase to a maximum of 100Mbit. Typical available speeds would be 2,10,100 & 1000 Mbits/s on a 100 or 1000Mbit bearer.

Symmetric -

This means you can upload data at the same fast speed at which you can download data. This can be useful if staff need to...

- access their work PC's desktops from home
- send large files
- upload sizable files to your web sites
- backup data using online services
- host web sites on a server at your office
- use VoIP telephony



What is a Leased Line Used For?

It is used to link two locations together.

The first location is typically a corporate office. The second location is typically another corporate office, a data centre that's connected to the Internet or a data centre that's connected to the company's existing Wide Area Network.

Businesses use leased lines to...

- connect to the Internet
- link PCs and servers in different corporate offices
- carry phone calls
- enable staff to connect to their work PCs from home

Disadvantages of a Leased Line

Cost – Leased line costs have fallen, but leased lines are still a LOT more expensive than other technologies.

Longer Wait – Leased lines may take about three-six months to install.

Physical Installation – Installing leased lines is more complex than installing a Wireless connection. A leased line will require a new circuit, and is likely to require some construction work to connect your building to the leased line provider's network.





What are the benefits of Wireless?

Wireless systems can be used for the same purposes as Leased Lines - to connect 2 locations/buildings together for Data, Voice or Video communications but have the following advantages over the traditional Leased Line connections:

- **Fast to deploy** - Typically a system can be installed and working within 10 working days from order.
- **Reliable** - Wireless Systems (When designed and specified correctly) can provide greater Availability than Leased Lines of 99.999% or greater.
- **Better SLA** - Wireless systems can be provided with a far better SLA than leased lines can provide, as if something does go wrong, no requirement to dig trenches or splice fibre cables.
- **Cost** - Wireless systems typically cost far less than leased lines to install and the ongoing annual costs are negligible in comparison (See Example below)

Comparison Costs

Lets take comparison of a customer who requires a **100Mbit** connection between 2 sites.

Site A:- Forfar, Angus - DD8 3WA **Site B:-** Forfar, Angus - DD8 1WH

Leased Line Costs:

£4,068.99 Line Rental per year

Note:- leased Line pricing assumes no additional construction charges. Leased Line providers require Duct & Cabinet Surveys to ascertain if remedial work is required to install the leased line - These charges are added to the cost of the circuit and can be substantial.

Wireless Connection Costs:

£5,326.40 Equipment & Installation
£777.28 Annual Support & Maintenance

£6,103.68 1st Year Costs
£777.28 Annual Cost from Year 2 Onwards

Based on 24GHz 100Mbit/s FDD PTP link with clear Line of Sight

TCO / ROI:

Total Cost of Ownership based on a 5 year circuit rental vs. Outright purchase & support of wireless equipment:

Leased Line Costs:- **£20,344.95** (60 Month TCO)
Wireless Costs:- **£9,990.08** (60 Month TCO)

Giving a Return on Investment for Wireless vs. Leased Line
ROI for Wireless vs. Leased Line: **22 Months**

Lets take comparison of a customer who requires a **1000Mbit** connection between 2 sites.

Site A:- Dundee - DD1 1LS **Site B:-** Dundee - DD4 7AX

Leased Line Costs:

£17,510.00 Line Rental per year

Note:- leased Line pricing assumes no additional construction charges. Leased Line providers require Duct & Cabinet Surveys to ascertain if remedial work is required to install the leased line - These charges are added to the cost of the circuit and can be substantial.

Wireless Connection Costs:

£7,678.57 Equipment & Installation
£1,370.14 Annual Support & Maintenance

£9,048.71 1st Year Costs
£1,370.14 Annual Cost from Year 2 Onwards

Based on 80GHz 1000Mbit/s FDD PTP link with clear Line of Sight

TCO / ROI:

Total Cost of Ownership based on a 5 year circuit rental vs. Outright purchase & support of wireless equipment:

Leased Line Costs:- **£87,550.00** (60 Month TCO)
Wireless Costs:- **£15,899.41** (60 Month TCO)

Giving a Return on Investment for Wireless vs. Leased Line
ROI for Wireless vs. Leased Line: **<12 Months**

*Pricing Accurate as of September 2015