

Running broadband on a long PSTN line

Due to the technology on which broadband connections run, the speed of the connection is directly linked to the length of your customer's PSTN line from their property to the local BT exchange. Below is a guide designed to help you make an informed decision on which broadband product will be most suitable for your customer. Note that the below are generic estimates and several factors can affect speeds. For more accurate estimates, the Availability Checker on the Gamma portal will provide individual property estimate speeds.

ADSL2+ broadband technology is more widely available than FTTC at present. ADSL2+ has better speed capability over distance than FTTC. Gamma currently offer a maximum speed for ADSL2+ services of 24Mbps downstream and 1.6Mbps upstream. The values below provide an estimate of ADSL2+ speeds by line length from the local exchange.

Distance from the exchange (km)	ADSL2/2+ speed (Mbps)
0.5	24
1	22.7
1.5	20.2
2	16.2
2.5	12.3
3	8.5
3.5	5.6
4	3.9
4.5	2.3
5	1.4

FTTC services offer a huge increase in speed over ADSL2+. Gamma currently offer a maximum speed for FTTC services of 80Mbps downstream and 20Mbps upstream. If your customer's premise is ideally located, they will be able to get the full speeds as described. As the fibre part of the connection terminates at the local cabinet, the potential speed of the service is directly related to

the distance of your customer's premises from the local FTTC enabled cabinet. The values below provide an estimate of possible speeds measured against distance from the local cabinet.

Distance from street cab (km)	FTTC speed (Mbps)
0.2	80
0.4	69
0.6	51
0.8	35
1	28
1.2	24.5
1.4	22
1.6	19.8
1.8	18
2	16.5
2.2	14.8
2.4	13.3
2.6	11.7
2.8	10.2
3	8.7

With the information above in mind you should be able to make an informed decision about which technology would be most cost effective for your customer. There is a point at which the speed of FTTC drops below that of ADSL2+ once the line reaches a certain length. This means that the increased cost of FTTC over ADSL2+ offers diminishing returns for your customer and as such, ADSL2+ may be the better choice.

For FTTP, the distance from the exchange has no impact on performance with the line being fully fibre.

For further advice on choosing an appropriate broadband product, please contact your internal account manager or iam@gamma.co.uk.