

# The I-Plate

A self-install solution for Broadband problems caused by Home Wiring

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Patent protection IPD Ref: B31402

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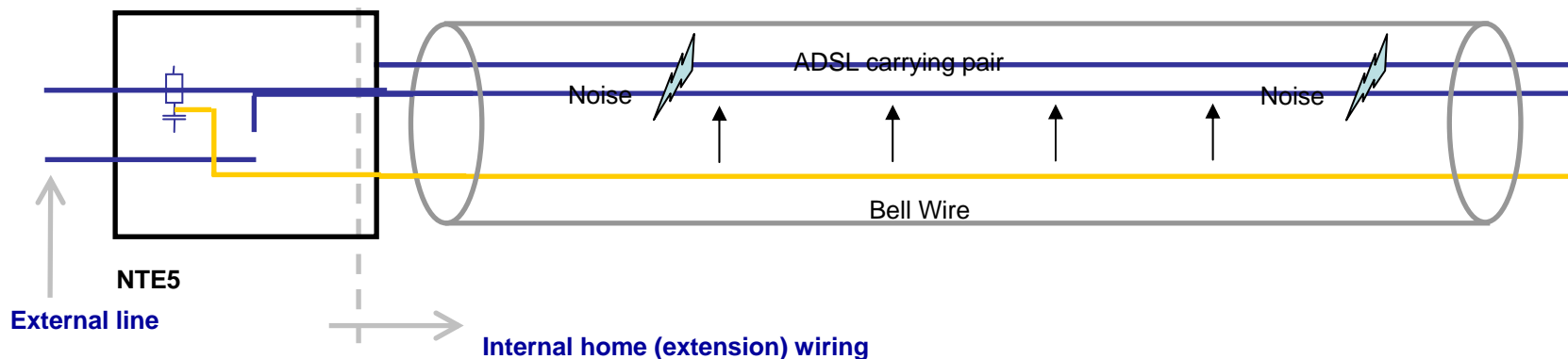


# Overview

1. The Bell Wire problem
2. The I-Plate self install solution
3. Install process and information on use
4. Feasibility of self install
5. Benefits

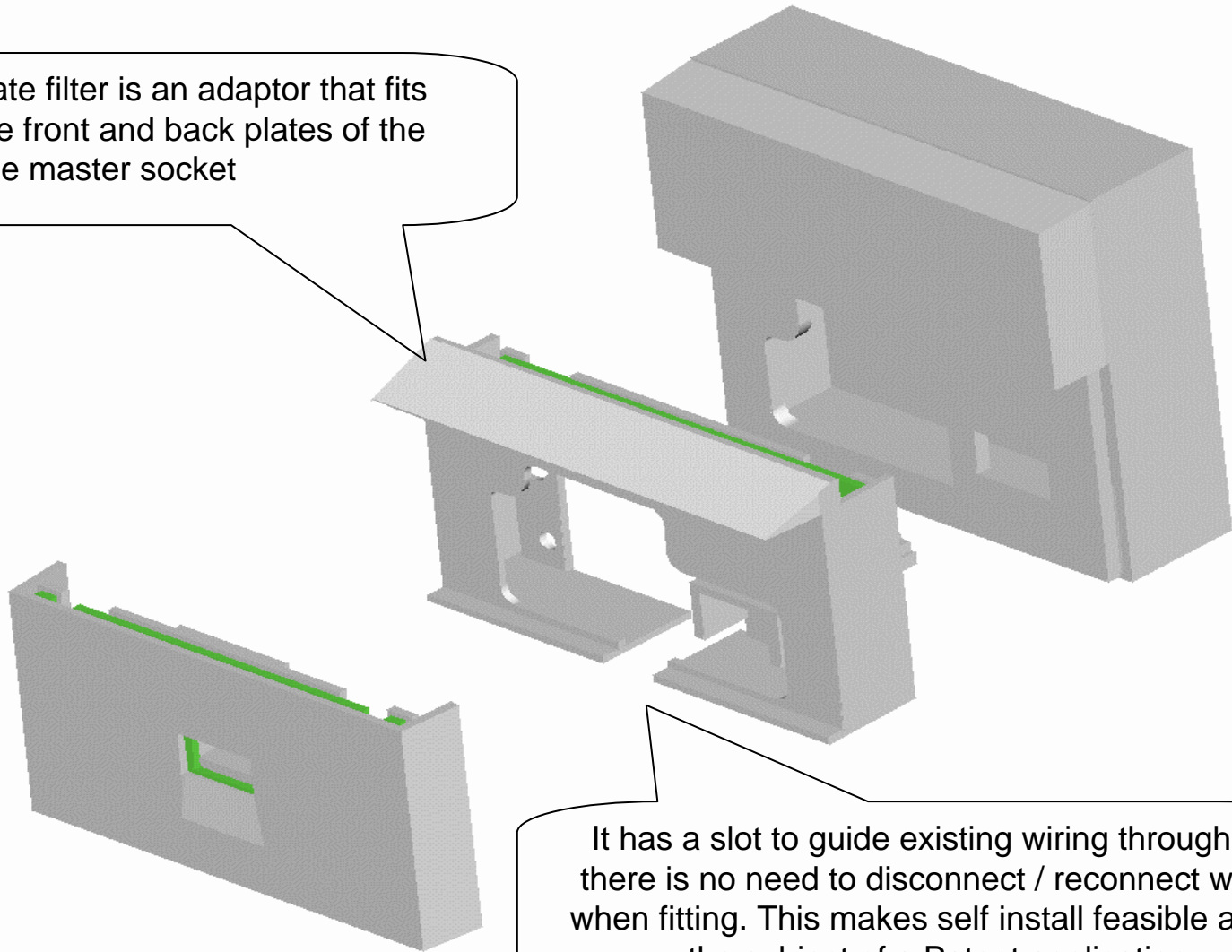
# The Bell Wire problem

- The Bell Wire picks up electrical interference that suppresses line speed and reduces stability of Broadband service. This problem impacts all homes with extension wiring to some degree.
- Simple filtering can deliver line performance benefits of up to 4Mb per second, though 1.5Mb was found to be typical in a benchmark sample of 36k lines.
- Filters have been around for a while but deployment has been inhibited by high costs of the engineer truck roll required to fit them. Filters have been fitted as standard in new buildings since Q.3 2007 but there is still a big legacy problem.
- The I-Plate is aimed at all of the xDSL technologies and it will work with any of the broadband products.
- Maximum benefit can be obtained on rate adaptive products (such as DSL Max) because removal of interference optimises the full available line speed. Fixed rate lines benefit potential is significant in stability terms, but more limited speed –wise as a function of speed being 'fixed'.
- A simple, low cost self install filter solution is now available to test that could solve the problem in around 7 out of 10 UK homes.



# The I-Plate Self Install Solution

The I-Plate filter is an adaptor that fits within the front and back plates of the telephone master socket



It has a slot to guide existing wiring through, so there is no need to disconnect / reconnect wiring when fitting. This makes self install feasible and is the subject of a Patent application

# Fitting the I-Plate and important information on use

1



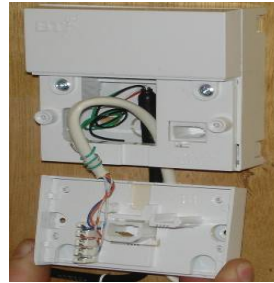
The I-plate only fits onto the NTE5 type master telephone socket shown above - Note the split face plate with either BT Logo, T Logo or Openreach\*

2



Unscrew and gently remove lower half of the face plate.

3



Be careful not to disconnect the wiring attached to the back of the face plate.

4



Slide the I-Plate into place by guiding the wiring through the slot at the bottom of the I-Plate. The I-Plate fits onto the back plate just like the faceplate you have just removed.

5



Replace the original face plate over the I-Plate, and use the longer screws provided to secure it in place.

**PLEASE NOTE: The telephone sockets below are *not* the NTE5 type so the I-Plate will not fit on these socket types.**

**Do not attempt to install an I-Plate on these socket types or any other type of socket.**

This one has no split in the face plate.



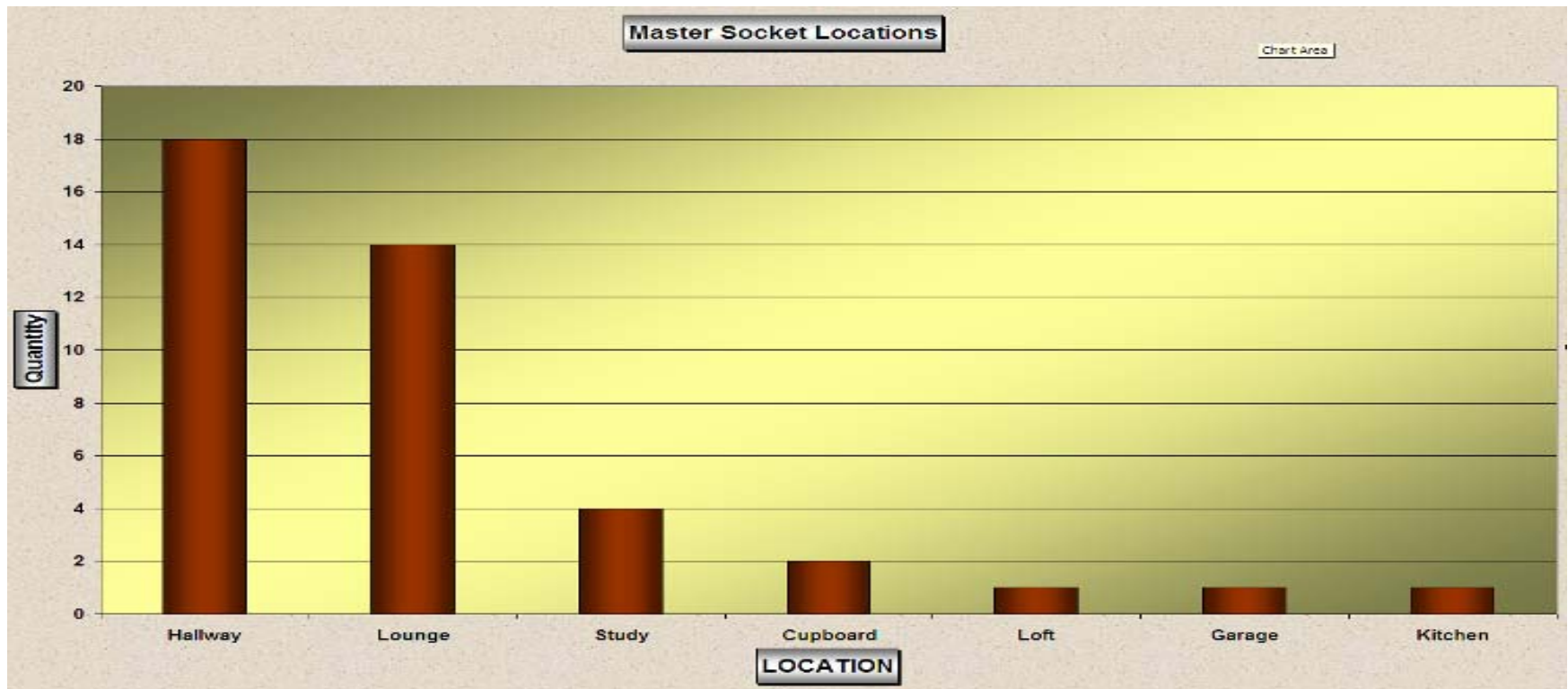
This one has no split in the face plate and has 2 sockets.



**Important information on use:** Only homes with both an NTE5 type master telephone socket and extension wiring can benefit from use of an I-Plate (about 7 out of 10 UK homes). \*Note: Fitting an I-Plate to an Openreach NTE5 the speed uplift may not be evident because there is a Bell Wire Filter in place however the I-Plate can assist stability due to the Radio Filter

# Trial – Feasibility of self install

**Step 1** – Confirm extension sockets exist and find the master socket



Your master socket is usually located close to where your telephone wire enters your house

# Feasibility of Self Install

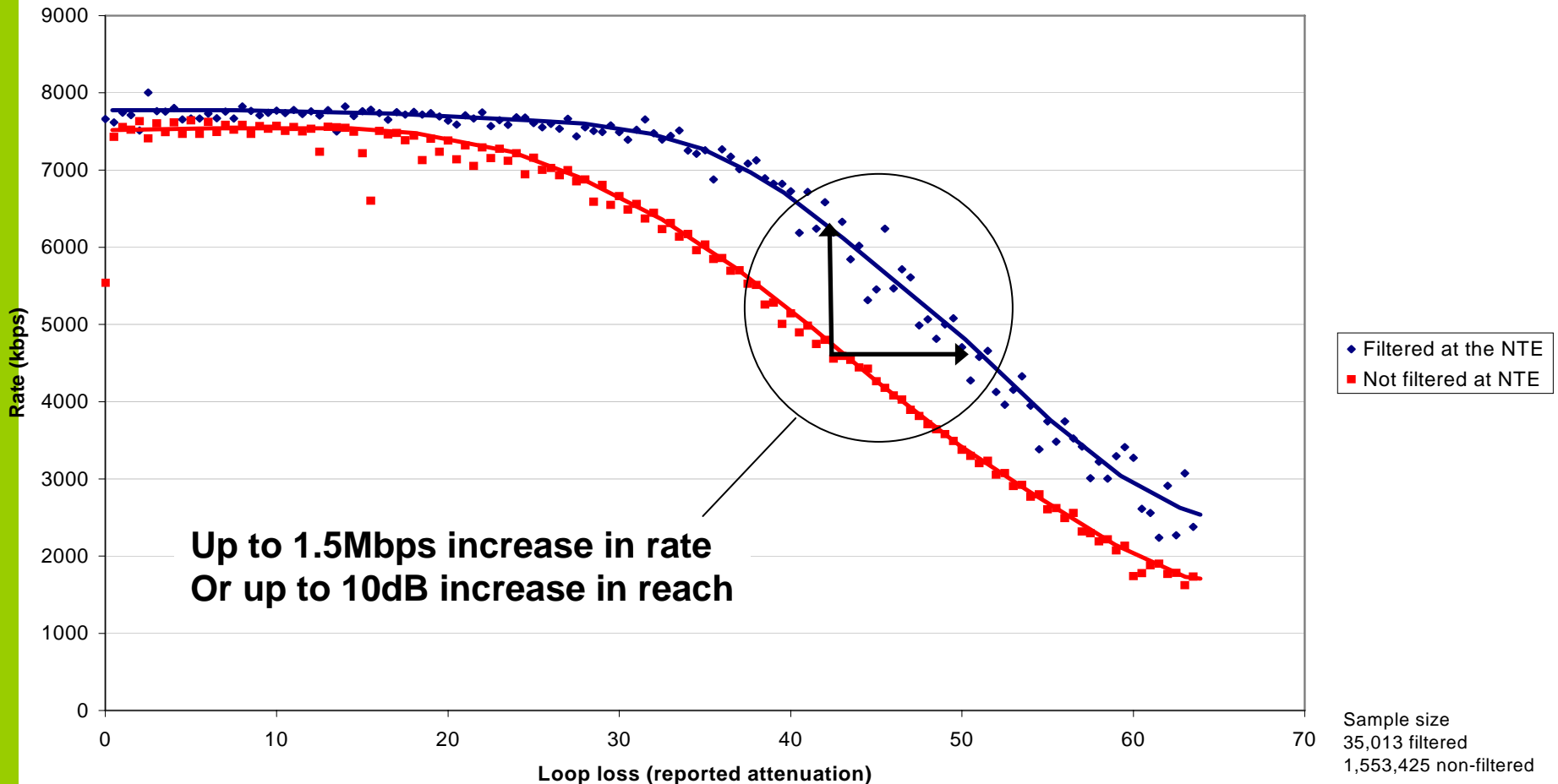
## Self-Install Trial\*

- 100% felt 'safe' during self install, meaning none had Health & Safety concerns removing the face plate
- 100 % found both locating the main telephone socket, and installing the I-Plate 'easy'.
- 84% completed self install in 5 minutes or less, and 96% in less than 10 minutes.
- 100% said they preferred to self install rather than have an Engineer visit
- Subsequent Trial with 77 users who were pre-qualified (NTE5 or extension wiring) 66 were contacted who had completed the task and not one requested helpdesk support
- A 1000 I-plates have been distributed to CPs and BT employees to support case studies and to date no wiring issue has been raised.

\* Respondents from a trial with 40 live end users replicated findings from another trial with 50 BT employees

# Benefits of Bell Wire filtering – typical 1.5mb increase in line speed and 10dB more reach

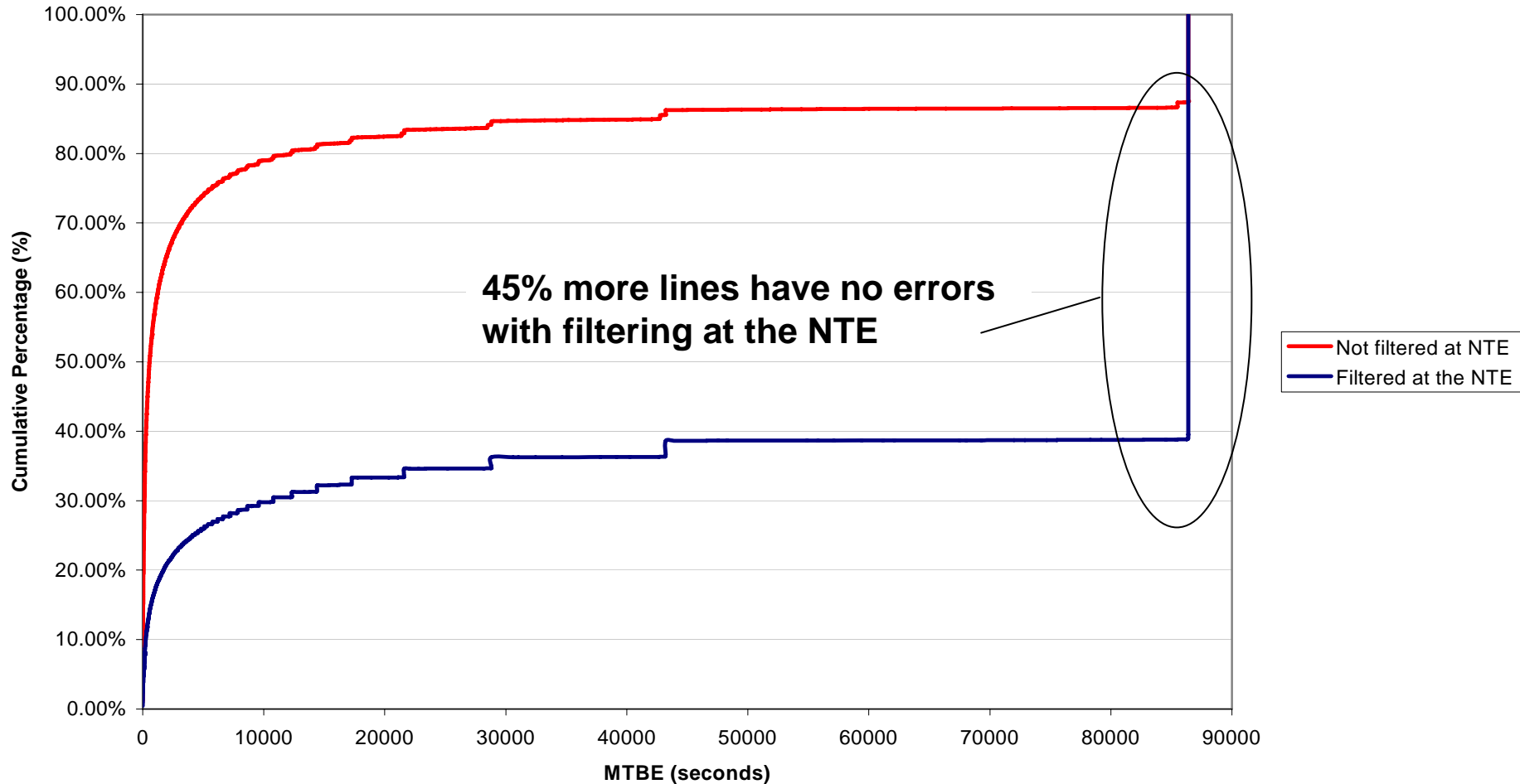
Average downstream rate filtered and non-filtered DSL Max installs





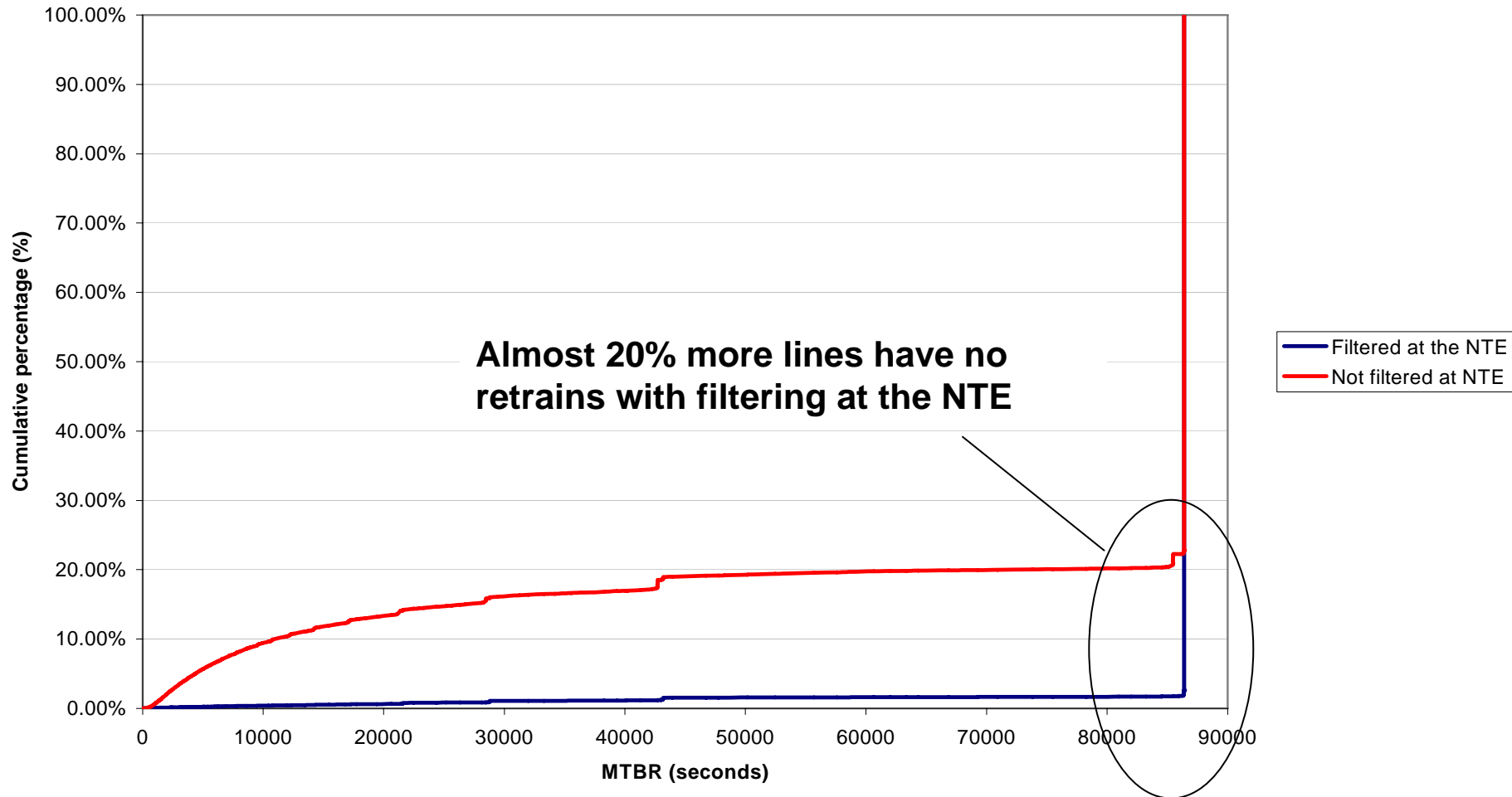
# Benefits of bell wire filtering – 45% more lines have no errors

Mean time between line errors (filtered and non-filtered DSL Max lines)



# Benefits of bell wire filtering – 20% more lines have no retrains

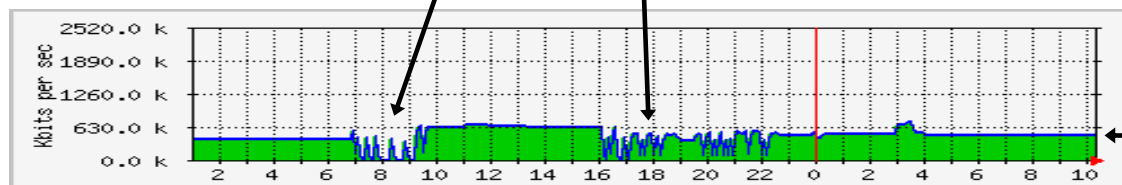
Mean time between retrains (filtered and non-filtered DSL Max lines)



# Benefits of bell wire filtering – example

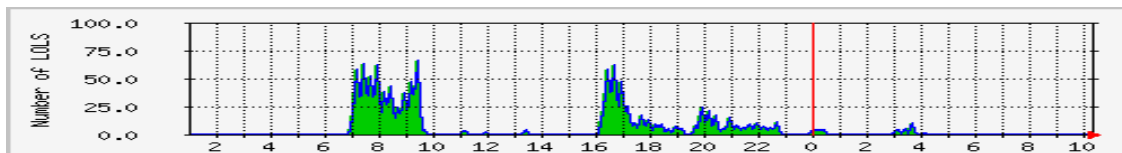
Multiple re-trains in morning and evening resulting in a significant amount of service downtime

Not filtered



Average bit rate around 500 kbps

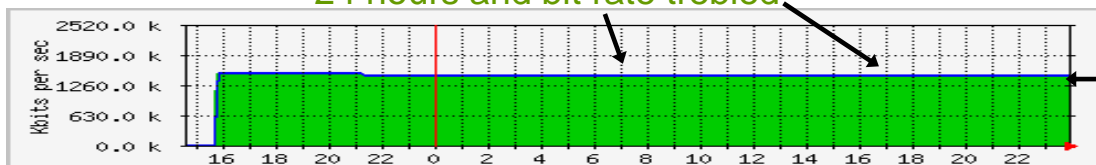
Downstream data rate



Loss of link seconds

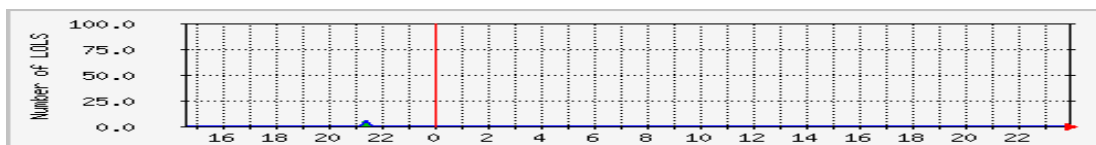
Significantly more stable, only a single re-train in almost 24 hours and bit rate trebled

Filtered



Average bit rate now around 1500 kbps

Downstream data rate



Loss of link seconds

# Benefits of Bell Wire filtering

- Potential to improve the end user experience of Broadband through faster and more reliable services
- Increase Broadband coverage and expand the market
- Improve delivery of high bandwidth/ high value applications and value added services
- Potential to reduce fault volumes, calls into service centres and associated costs and customer dissatisfaction