

# The I-Plate

A self-install solution for Broadband problems in the Home Environment

May 2008 Issue 1

**Legal Notice:**

Patent protection applied for.  
The facilities described in this presentation are draft proposals for the purposes of discussion and to obtain customer feedback. BT gives no undertaking that these facilities will be made commercially available.

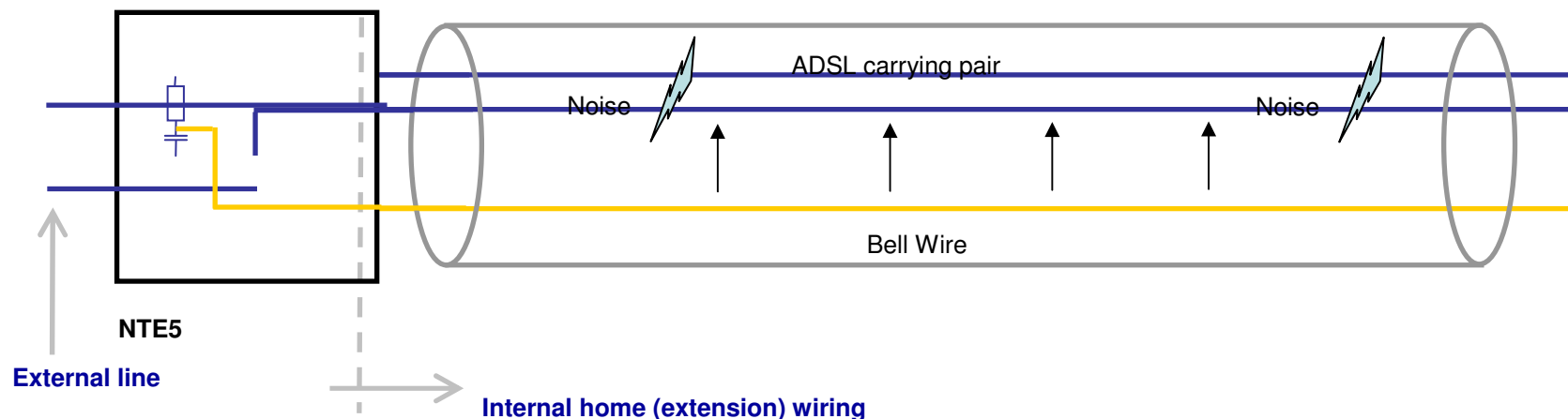


# Overview

1. The Bell Wire problem
2. Benefits of Bell Wire filtering
3. The I-Plate Self Install Solution
4. Feasibility of Self Install
5. Summary and next steps

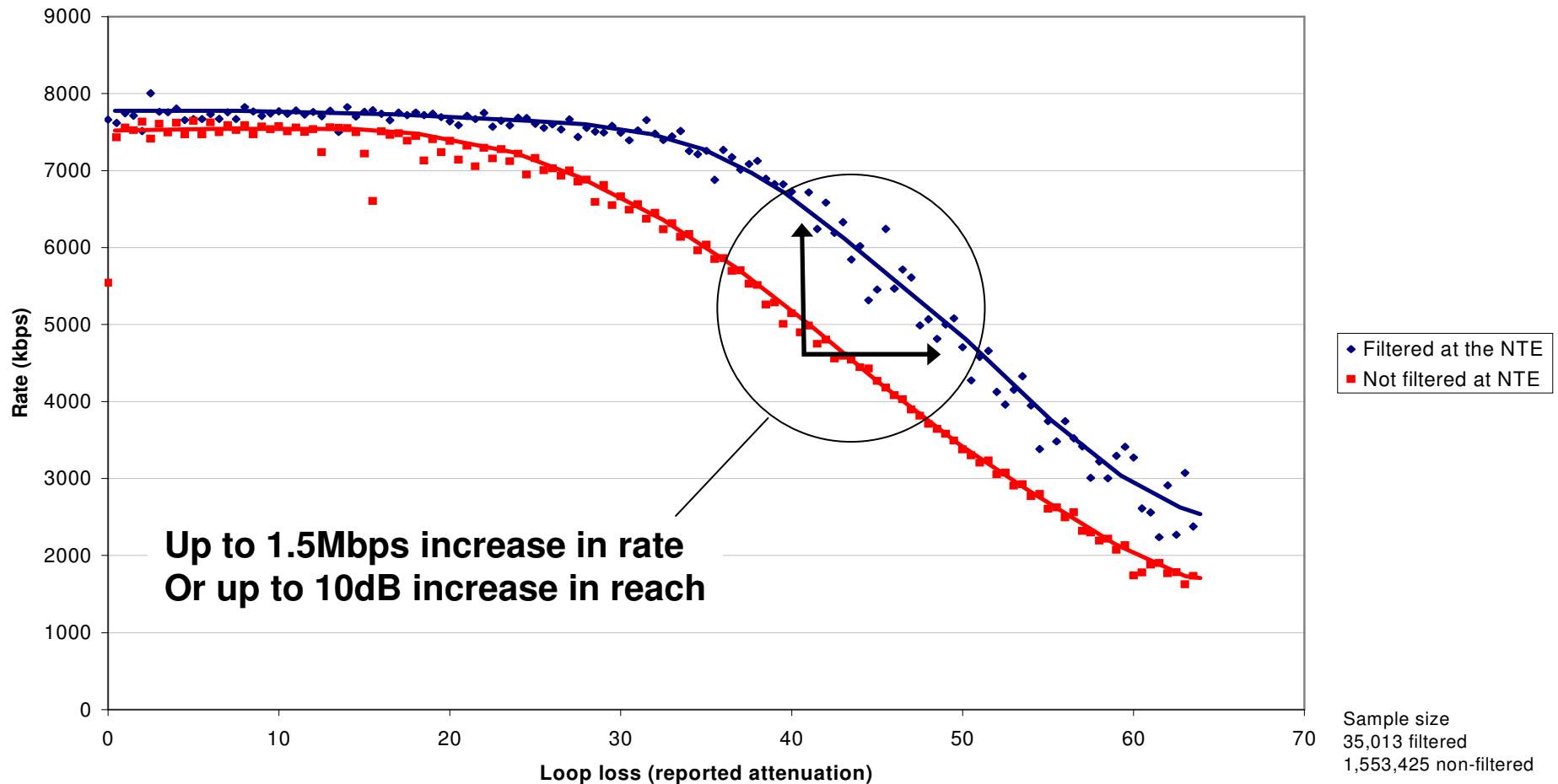
# The Bell Wire problem

- The Bell Wire causes interference that suppresses line speed and reduces stability of Broadband service. The effect impacts all homes with extension wiring to some degree.
- In the early days of Broadband managed install of centralised splitters isolated the Bell Wire. Introduction of self install and use of micro-filters means this isolation is no longer maintained.
- Fixed Rate products typically had bandwidth margin to absorb noise from interference so the impact was hidden. Increased use of Variable Rate services (like DSL Max) means this margin is increasingly traded for line speed, so the problem is becoming increasingly obvious to end users.
- Bell Wire filters have been fitted as standard on new builds since Q.3 2007 so the problem won't continue to grow. Lack of a defined home wiring Standard and need to disconnect / reconnect wiring makes costly truck rolls necessary to retro fit filters which is cost prohibitive.
- A self install solution can leverage significant benefits at a fraction of the cost



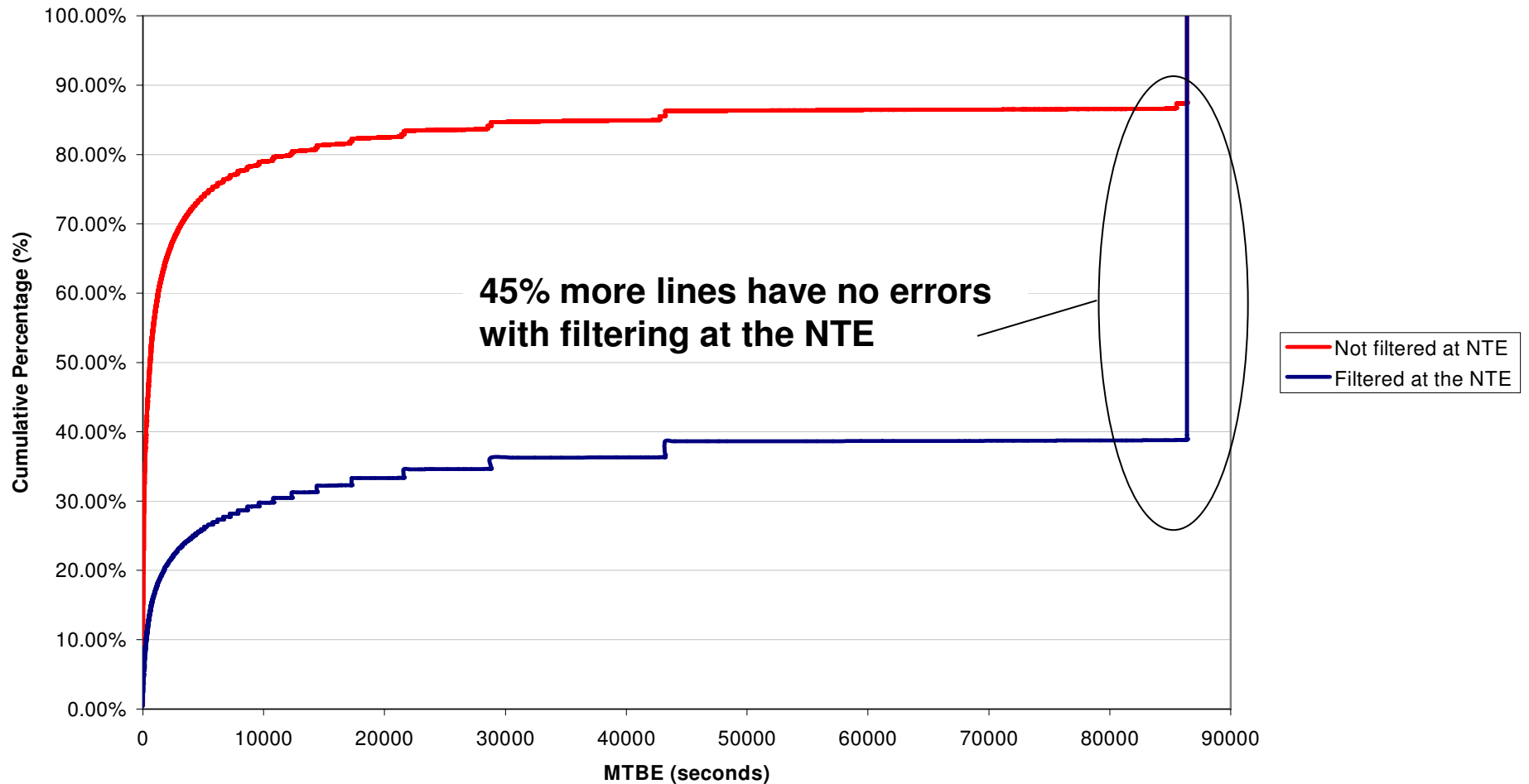
# Technical Benefits of Bell Wire filtering – typical 1.5mb increase in speed and 10dB more reach

Average downstream rate filtered and non-filtered DSL Max installs



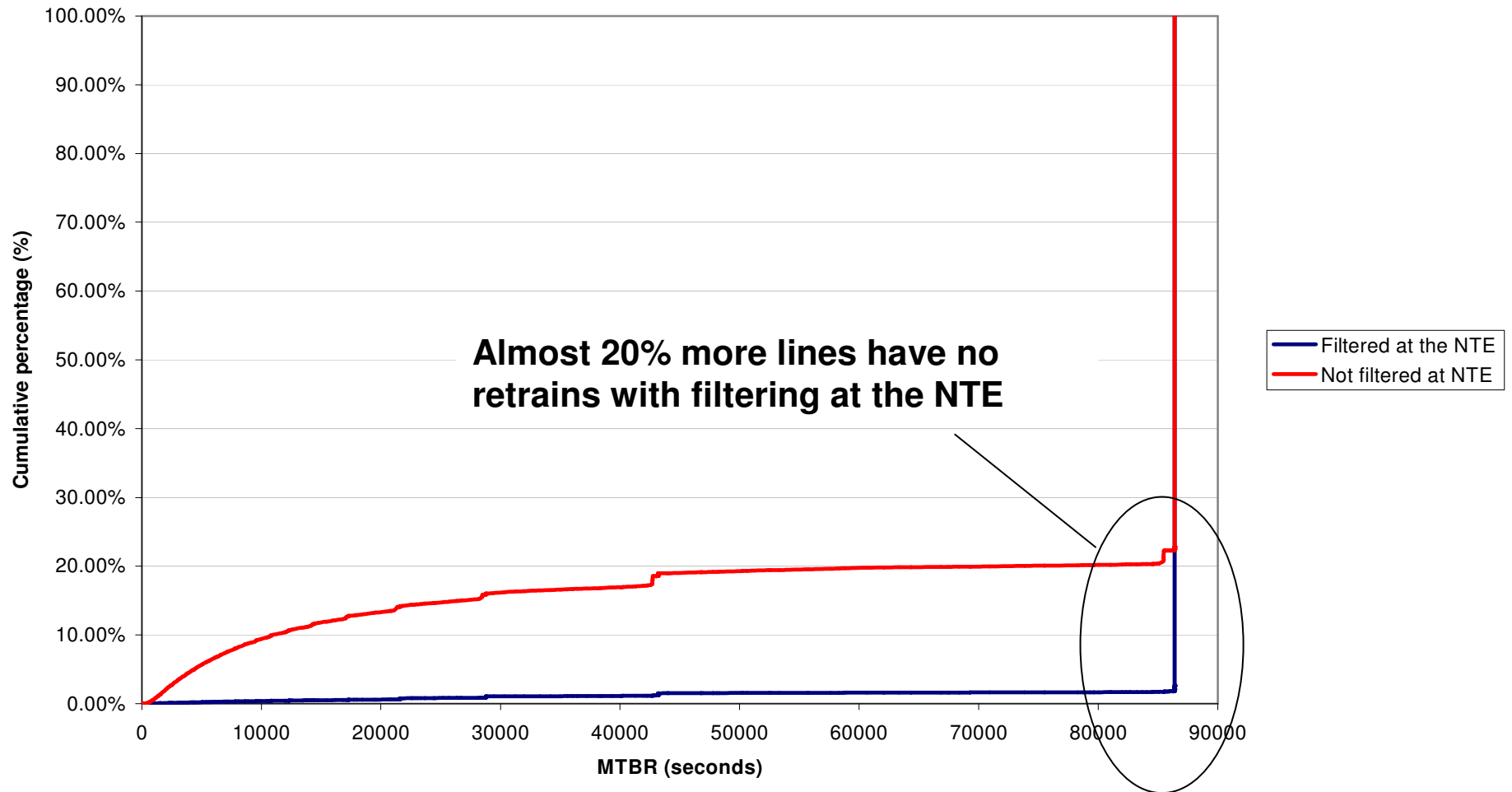
# Technical Benefits of Bell Wire filtering – 45% reduction in errors

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



# Technical Benefits of Bell Wire filtering – 20% reduction in retrains

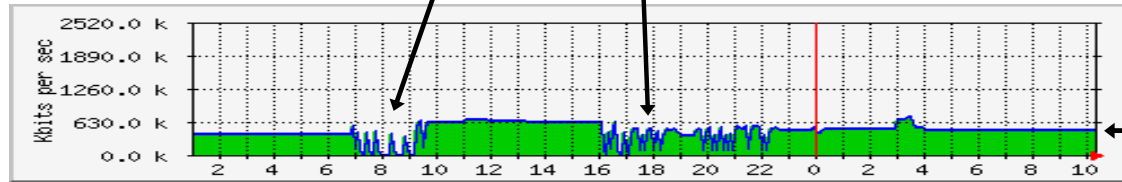
Mean time between retrains (filtered and non-filtered DSL Max lines)



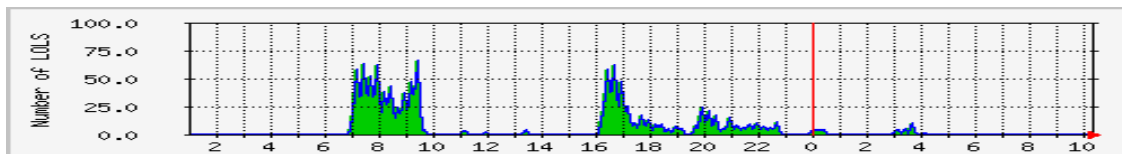
# Technical Benefits – Summary

Not filtered

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

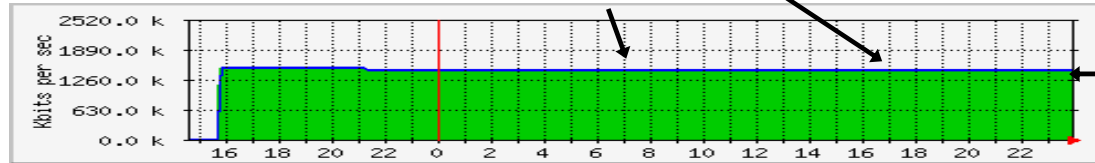


Average bit rate around 500 kbps

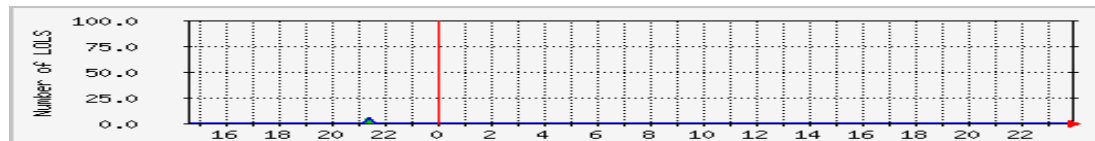


Significantly more stable, only a single re-train in almost 24 hours and bit rate trebled

Filtered



Average bit rate now around 1500 kbps

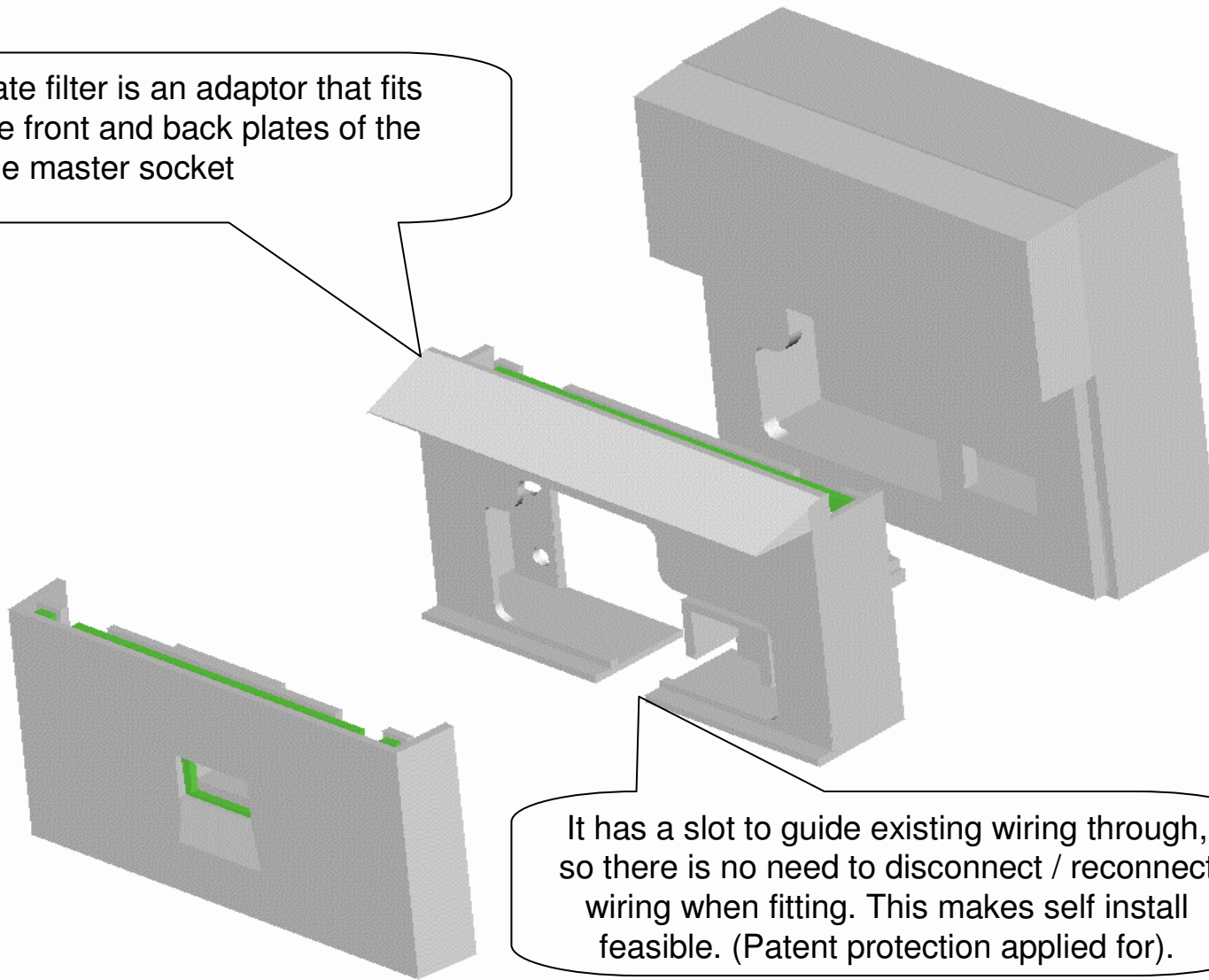


# Business Benefits

- Improve line speed and stability – faster downloads, fewer connection problems make for a better customer experience
- Increase Broadband coverage and expand the market e.g. provide service more successfully on 'Orange Flag' Long lines
- Improve delivery of Broadband TV, Video and other high value applications
- Reduce cost of failure associated with interference and line speed faults
- Reduce churn and cost of acquisition by offering the I-Plate to optimise service
- Reduced time on site for engineers fitting Bell Wire filters because wiring work is not needed

# 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. (Patent protection applied for).

# Feasibility of Self Install

- Trial of 40 live end users replicated results from 50 BT employees and found:
  - **100%** felt 'safe' during self install, meaning none had Health & Safety concerns
  - **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
- A further Pilot is necessary to build on trial success and build confidence in results .
- CP/ End user dialogue to pre-qualify potential for self install plays an important role in success
- 7 out of 10 UK homes can benefit potentially (this is how many have both an NTE 5 type master socket and some extension wiring).
- Proactive bulk diagnostic tools are being explored to further facilitate identification of lines that will benefit
- Pilot runs from 26<sup>th</sup> May to 29<sup>th</sup> August 2008

# Summary and next steps

- The Bell Wire effect can cause significant problems for Broadband
- Simple filtering can help deliver significant benefits in line speed and stability
- A self install solution is now available and CPs are encouraged to explore potential in Pilot
- Improved diagnostics are being explored to help identify lines most likely to benefit from filtering
- Results are based on ADSL1 lines but the solution is suitable for ADSL2+ lines also, and benefits will be at least as good if not greater
- No decisions have been made on how this might be made available commercially beyond Pilot.