



The WiFi Business Case

Railway Interiors Expo

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1 December 2004

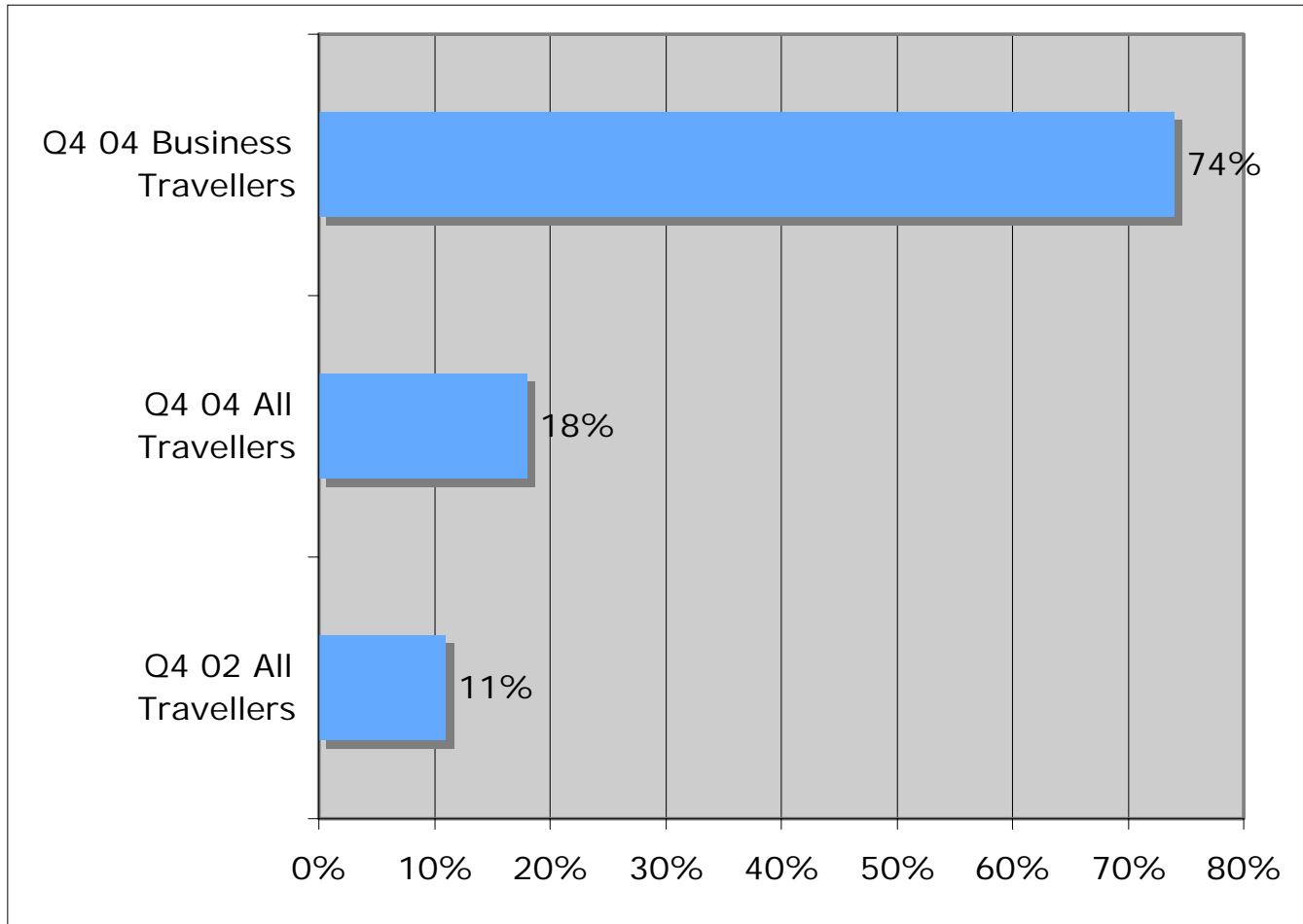
www.bwcs.com

A graphic element consisting of a white horizontal line that curves downwards and then back up, resembling a stylized 'S' or a wave, positioned below the 'BWCS' text.

Agenda

- Is there demand for it?
- What kind of business is it?
- How to optimize returns
- What should TOCs be expecting from technology suppliers?
- Other technology considerations

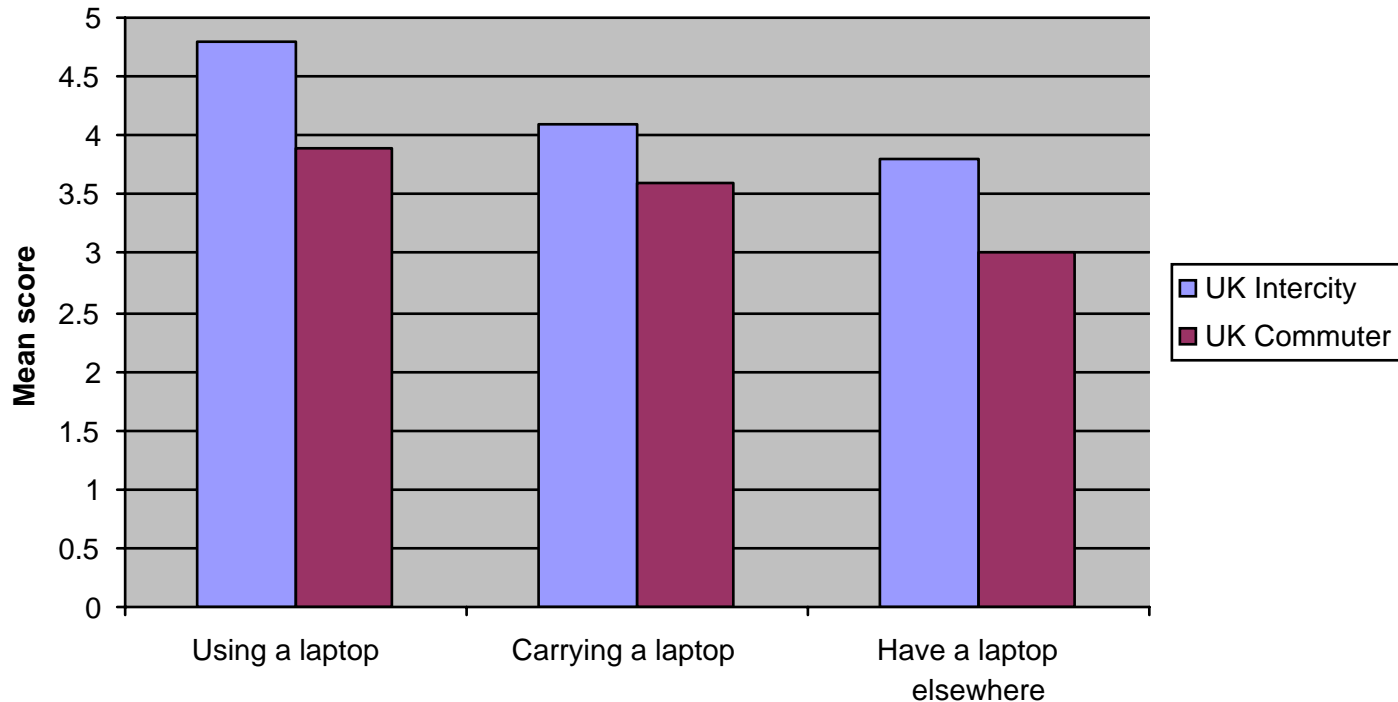
About 18% of passengers on UK high speed/intercity trains have laptops or PDAs



>50% of laptops are Wi-Fi enabled

Laptop Users Want Broadband Access on Trains

How interested would you be in accessing the Internet at ADSL speeds from this train?

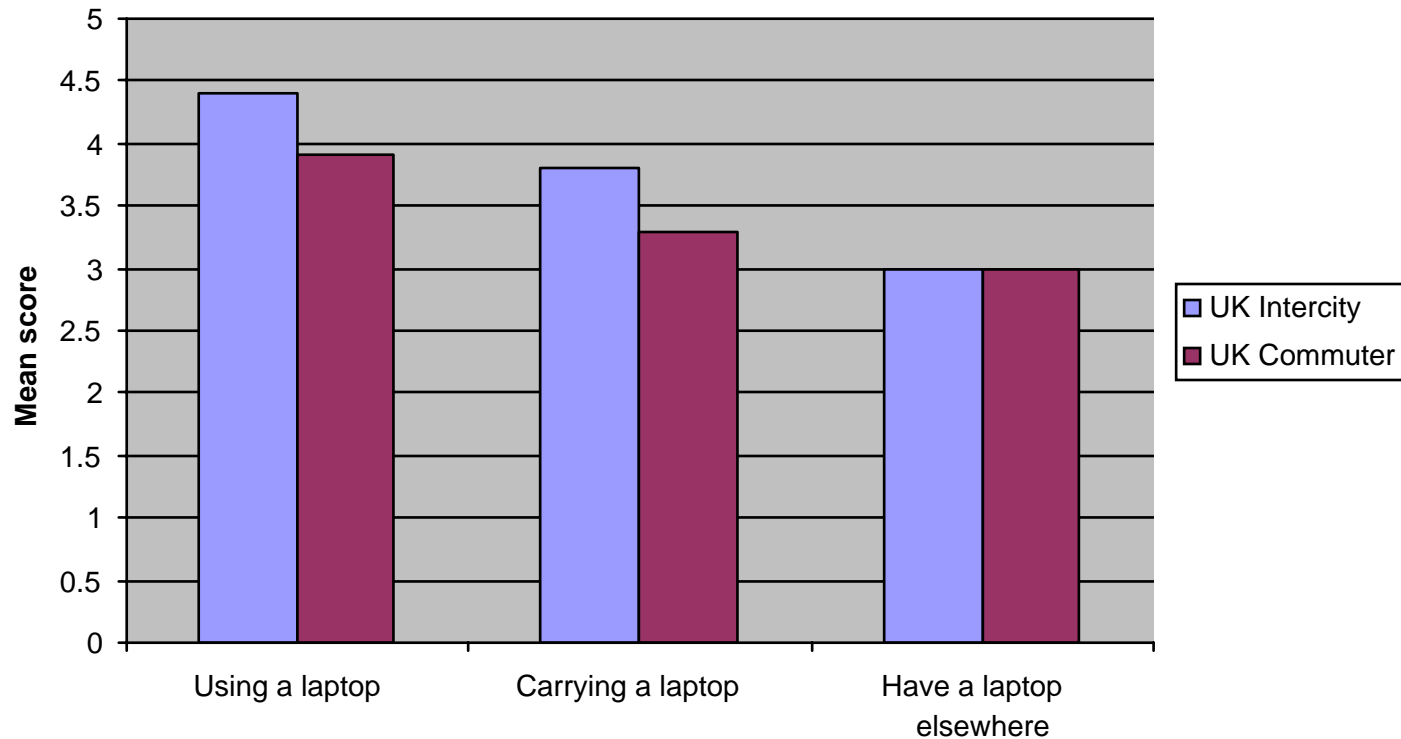


Q4 2002

N=200 UK train users with laptops

And even dial-up speeds are better than nothing....(for now)

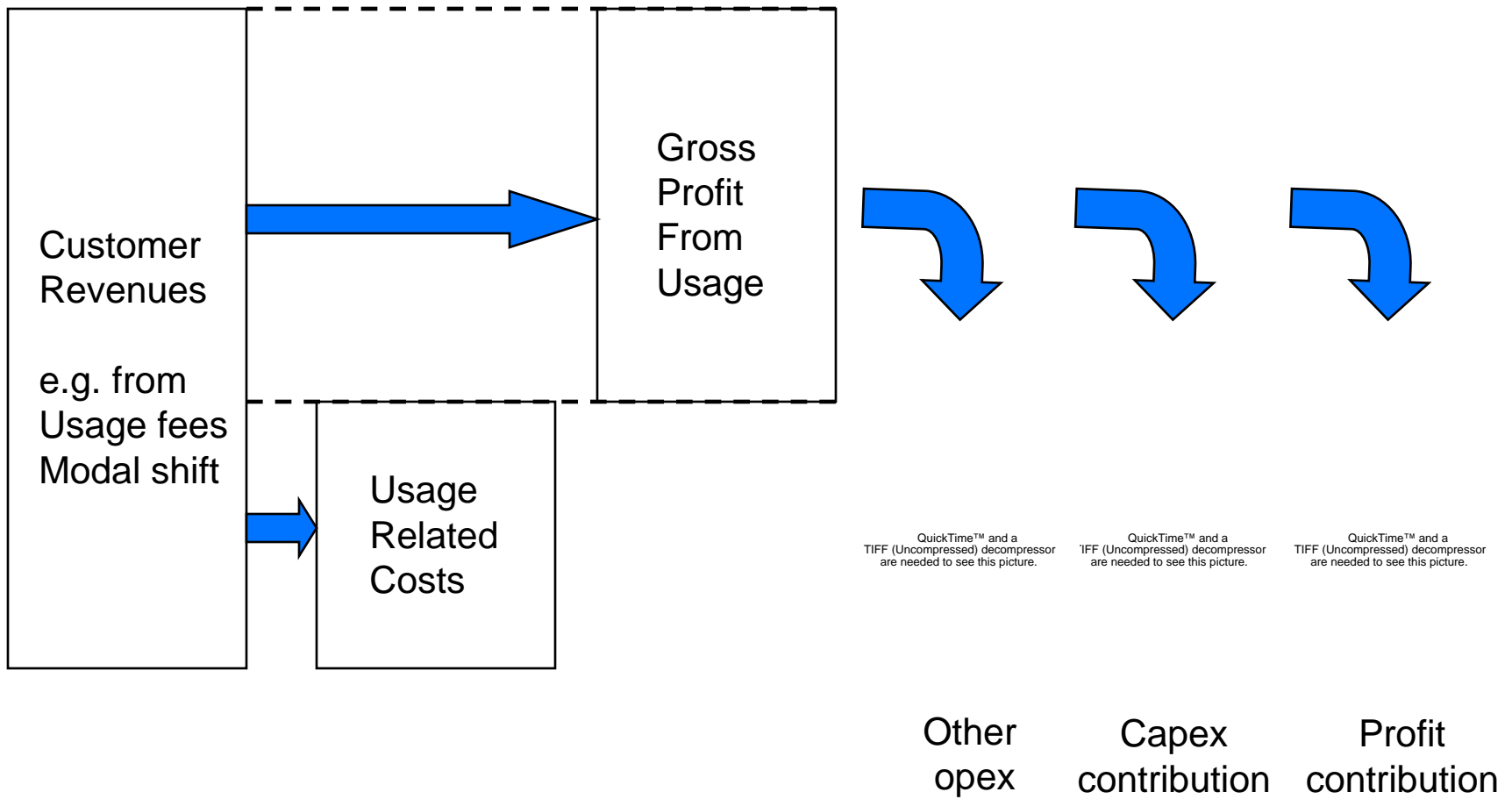
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Q4 2002

N=200 UK train users with laptops

Where the money goes



It's an opex business - we need to understand the usage-related opex drivers

**Getting traffic onto the train
(via satellite today)**

QuickTime™ and
TIFF (Uncompressed) de
are needed to see this p



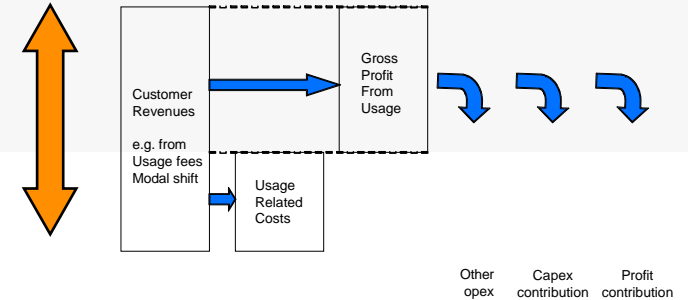
**Getting traffic off the
train
(via satellite or
cellular network
today)**

**Satcoms - traffic charge and/or
Transponder rental**

**Cellular GPRS - price per minute
Orders of magnitude more
costly than satellite downlink**

Payment processing

Revenue Generation



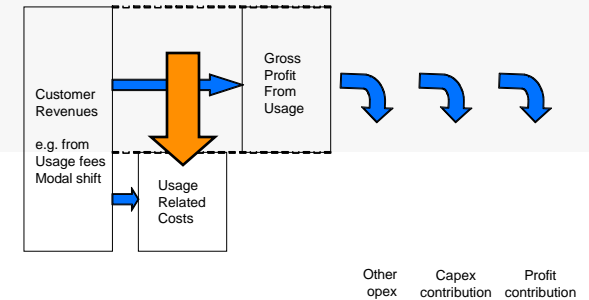
Should service be free or should users pay?
 Free in First Class?
 Pricing Models:

Charging Model	For	Against
Per Minute	Aligned to costs Easy to compare with fixed hotspots	Have to log on every time
Per Journey	Easy for users	Discriminates against short journeys Hard to administer
Per Kilobyte	Not much	Everything
Season Ticket	Avoids logging on every time Analagous to train ticket More profitable	Too expensive for some

Barriers to Logging On

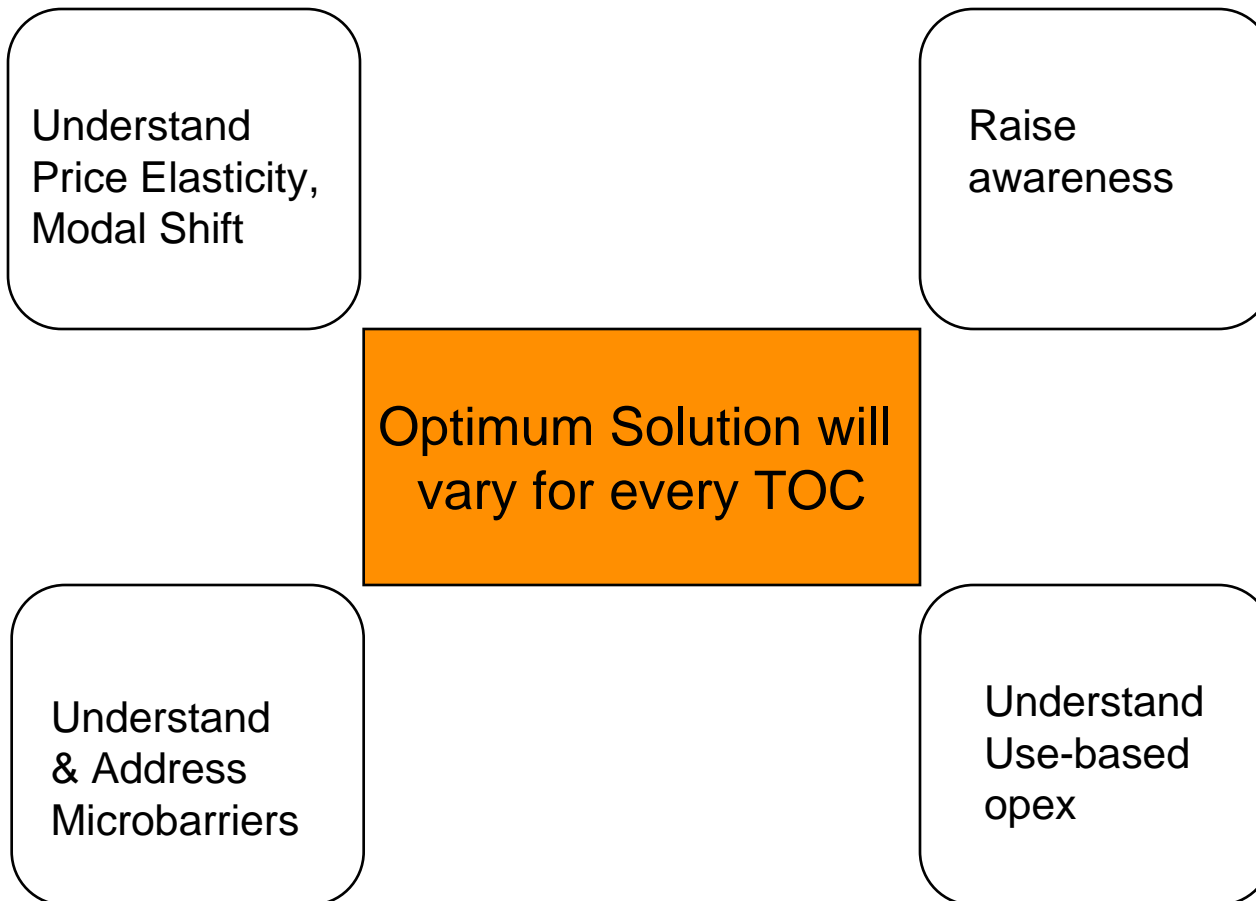
- **Awareness of Service**
- **Didn't know my laptop was Wi Fi enabled**
- **Don't know how to use Wi Fi**
- **Price**
- **Have an alternative way to get my email (e.g. Blackberry)**
- **Microbarriers to usage:**
 - **Tired of logging on again and again**
 - **Log on process doesn't work well or properly**
 - **Don't want to get my credit card out on the train**
 - **I can't use my mobile, so how can I use my laptop?**
 - **Train too crowded to get my laptop out**
 - **Other microbarriers?**
- **I don't want to use the Internet, thanks**

Minimising Opex



- **GPRS rates are negotiable!**
- **Ensure maximum flexibility in GPRS transmission equipment:**
 - Dynamic routing
 - Load sharing
- **Look at 3G coverage & costs along your routes**

Optimising Gross Profit from Usage



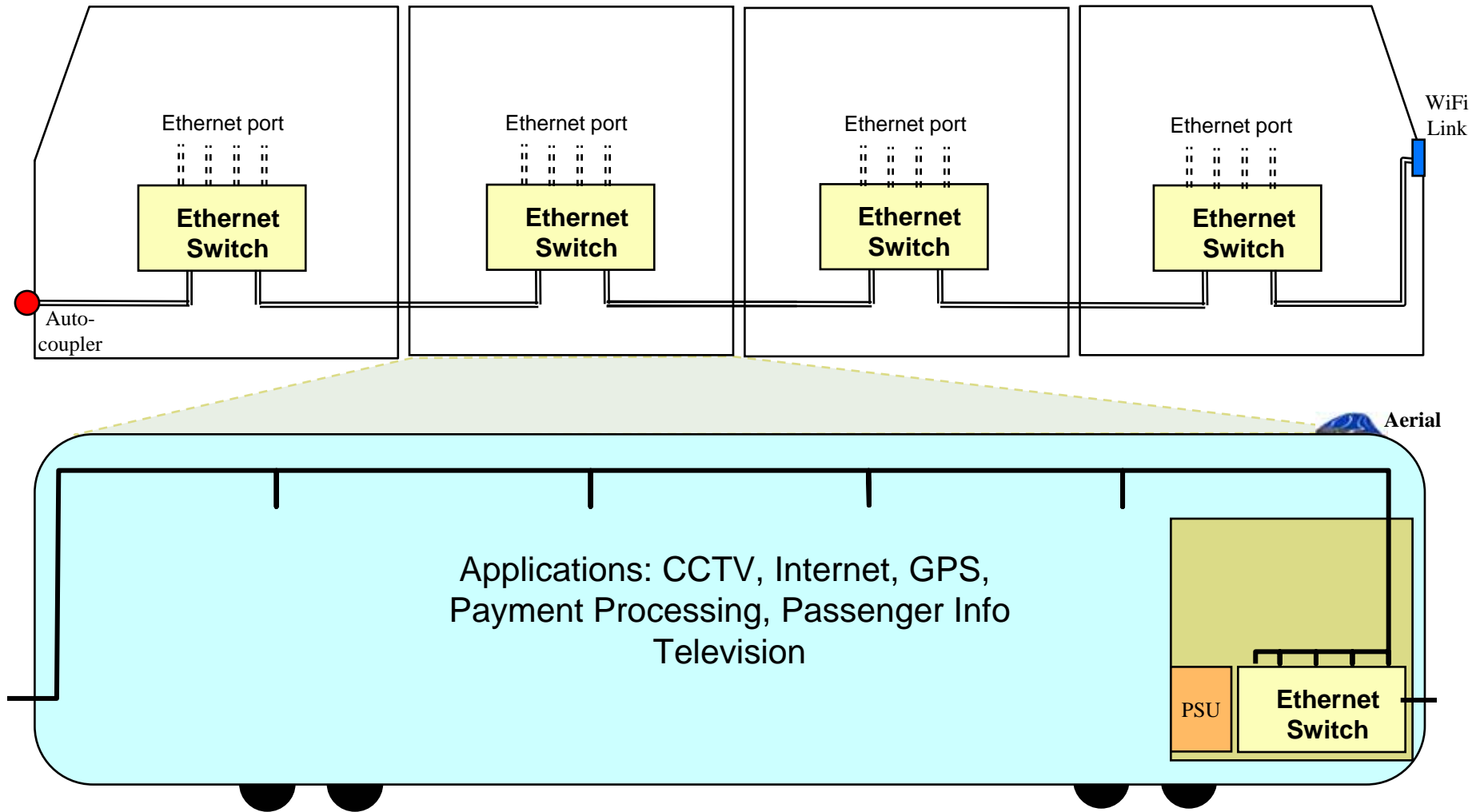
What can a TOC expect from a technology partner? - Boxes or Services?

- **Remember this is a new market**
 - There are no established rules about the way that TOCs and service providers interact.
- **Consider what needs to be done to offer your passengers Internet access**
 - Design & Approvals
 - Install & Test
 - Monitor
 - Negotiate Transmission Capacity from Satellite & Mobile Ops
 - Monitor Opex Billings
 - Maintain System
 - Secure Log In and Payment Collection
 - Establish Roaming agreements with other WISPs, TOCs
 - Customer Care
 - Marketing & Branding
- **Where are your skills? Where are your partners' skills?**
- **What are your constraints, strategic goals?**

And then consider possible problems areas:

- **Who controls marketing?**
- **What is the brand?**
- **Who controls pricing?**
- **Who controls roaming agreements?**
- **Who looks after customer care?**
- **Who looks after payment collection?**
- **Who sources specialized content?**
- **Who monitors end to end network performance?**
- **Who determines installation timetable?**

Also think longer term about communications on a train





Thank you!