



VOIP **The modern telephone** **technology**

Tove Valley Broadband / ABbA

2024

Background

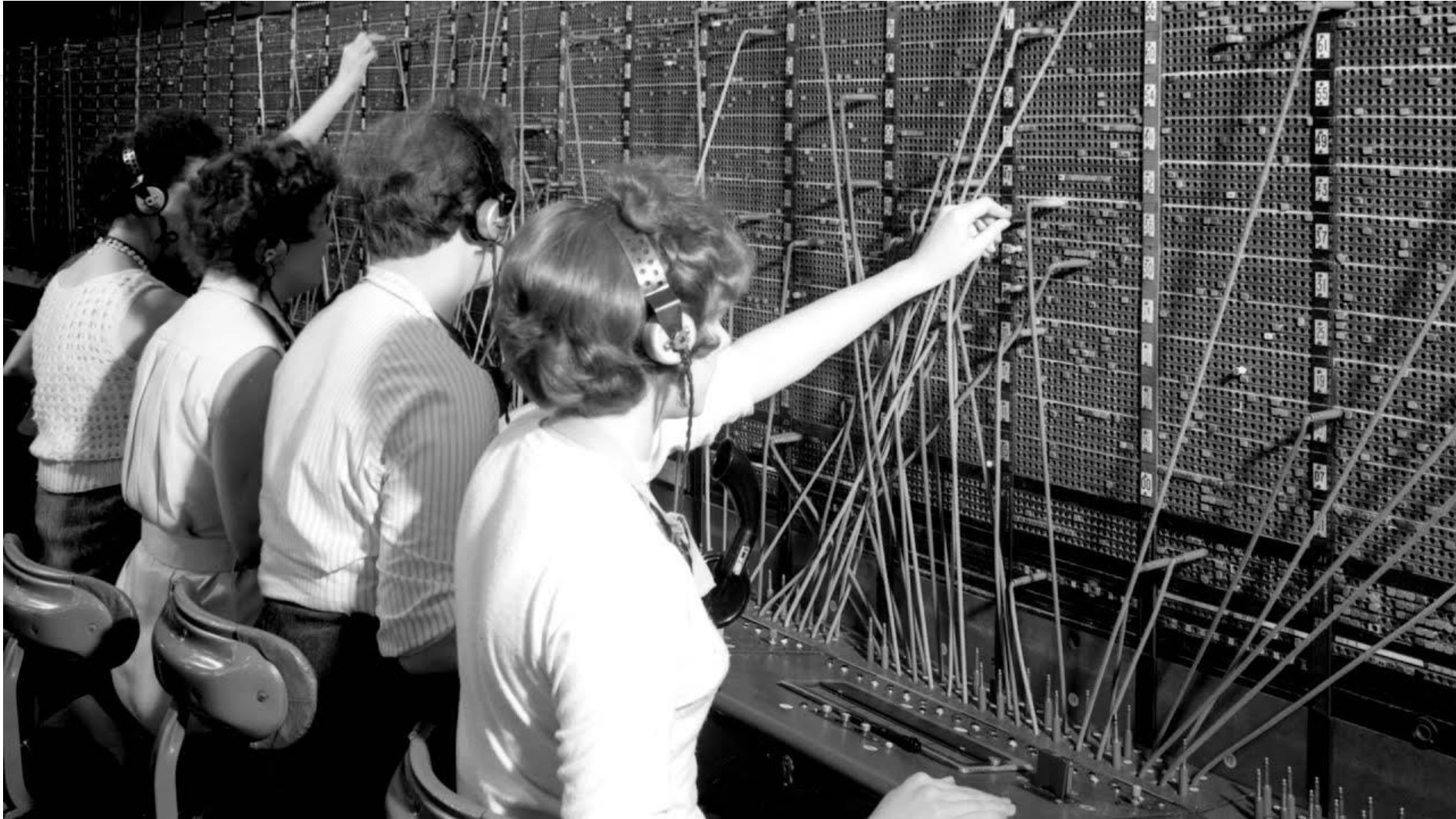
- BT / Virgin / KCom are closing down PSTN (public switched telephone network) service to be completed by end of 2027. No services sold since 5th Sept 2023. PSTN also known as:
 - POTS (plain old telephone system)
 - Analogue
 - Land-line
- BT have launched their “Digital Voice” service which requires their (or EE’s) broadband connection over copper-wire circuits, fibre or mobile phone network. The generic term is.....
- VOIP (Voice over internet protocol)
- **THERE ARE MANY VOIP SERVICE PROVIDERS**
(and have been for many years)



Why the change to VOIP?

- Alexander Graham Bell was awarded the first U.S. patent for the invention of the telephone in **1869**.
- Elisha Gray, **1876**, designed a telephone using a water microphone in Highland Park, Illinois.
- Tivadar Puskás proposed the telephone switchboard exchange in **1876**. First exchange opened in 1878 with 21 subscribers.

Why the change to VOIP?



Why the change to VOIP?

- Early automatic exchanges were electromechanical systems using motors, shaft drives, rotating switches and relays. Some types of automatic exchanges were the Strowger switch or step-by-step switches and used relays, rota
- In modern(!) exchanges, the mechanical devices were replaced with MOSFET (metal-oxide-semiconductor field-effect transistor) integrated circuits
- No solution to the quality problems of audio over copper wires and through the electronics of an exchange.



Why the change to VOIP?

- Higher quality
- Higher reliability
- Infinitely smaller footprint
- Considerably cheaper
- More control
- Global standards

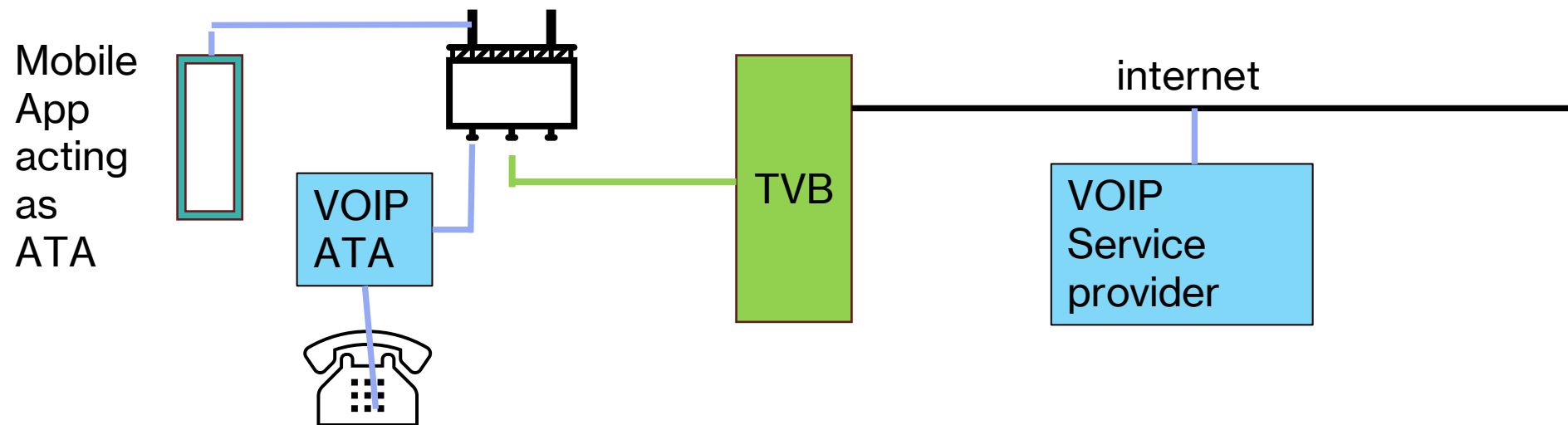
Do I really need to change to VOIP?

- Consider whether you need a 'land-line' phone at all; many now use their mobile phone only, especially since you can use your WiFi connection to call through your mobile network ('WiFi calling') if your mobile's reception is bad.
- Understand what "WiFi calling" (as part of your mobile phone service) is. You will be charged at your mobile phone service provider's rates so it may be more economic (and reliable) to use VOIP.

If you do require your land-line telephone number to carry on, then read on about VOIP and how to change.

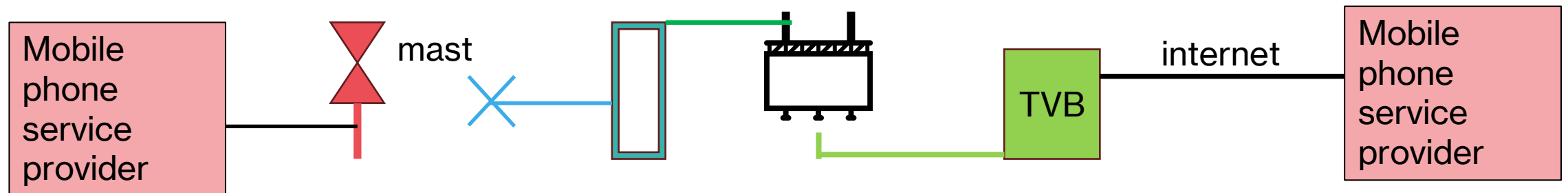
What is VOIP?

- VOIP mean **V**oice **o**ver **I**nternet **P**rotocol
- Voice is translated into digital signals through an **A**nalogue **T**elephone **A**dapter and passed through (essentially) computers on the internet



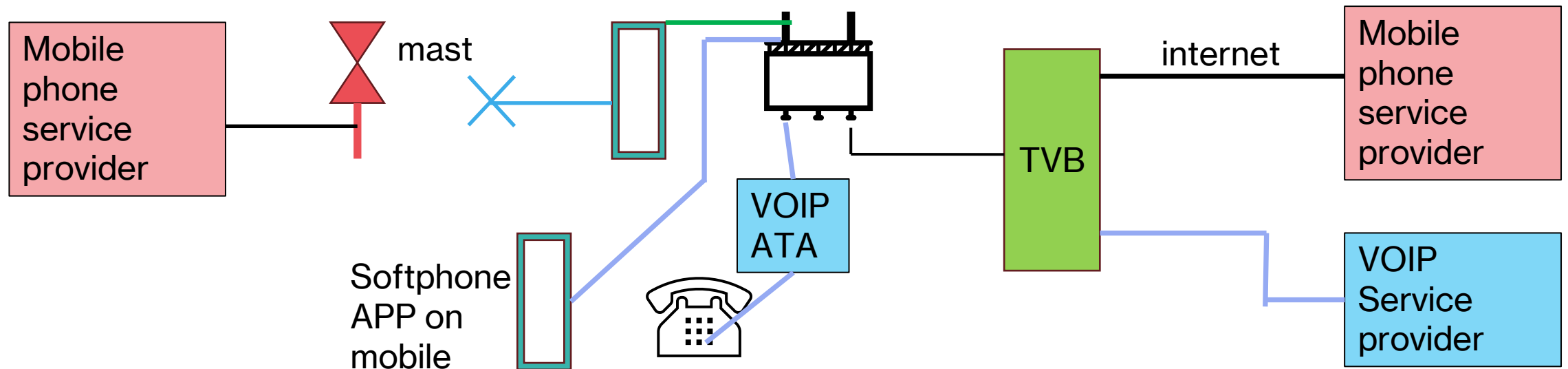
“WiFi calling” is not VOIP

- Uses your internet connection to connect with your mobile phone provider’s service instead of radio-to-the-nearest-mast
- Charges at your mobile phone contract’s rates



“WiFi calling” versus VOIP

- VOIP uses your internet connection to connect with a VOIP service provider
- VOIP is considerably cheaper than a mobile phone service (unless you already pay for unlimited / high capacity mobile phone usage)



What's the difference between POTS and VOIP?

- <https://www.axvoice.com/What-is-the-difference-between-VoIP-and-PSTN.html>
- Why are you reading this? You have no choice! You have to go to VOIP if you want a “conventional” phone. Do you really need a “conventional” phone?
- POTS / PSTN transmits your (analogue) voice over copper wires through an exchange (almost certainly BT) to the other party.
- VOIP converts your voice to digital and sends it via servers on the internet to the other party.
- VOIP is up to 40% cheaper than PSTN in a like-for-like scenario
- VOIP is better quality because your digital voice is transmitted
- VOIP is hundreds of times more versatile (in case you are a control freak)

Which VOIP service provider?

First:

- Should I not just await BT to change my kit? After all, they promise not to charge extra.....
 - a. BT (or their agents) will continue to charge you whatever you are paying now (£20+)/month or more.
 - b. You will be reliant on BT's broadband connection through the existing telephone lines; good luck with that!
 - c. You will have duplicate router, ATA, etc. to complicate your internal equipment
 - d. BT or their agents increase prices every year (8.8% this year)
 - e. "I want to keep my existing telephone number"; No excuse, you can take it with you.
 - f. "Do I need new telephones?"; No. You can keep your existing telephone(s) including DECT.

Which VOIP service provider?

Then:

- Consider whether you need a VOIP phone at all; many now use their mobile phone only. On the other hand, a VOIP service can be accessed anywhere where you have an internet connection...
- Work out the approximate number of minutes you spend on the phone (split into calls to 01; 02; 03 numbers and mobiles)
- Choose one based in the UK; google search “voip uk”
If you choose a VOIP SP elsewhere, your calls to any UK number will look like they are “international” and may be ignored/rejected.



Some suggestions

- Voipfone : <https://www.voipfone.co.uk/solutions/residential>
- Vonage : <https://www.vonageforhome.co.uk/plans/>
- Yay : <https://www.yay.com/>
- EveryDay Voip : <https://www.everydayvoip.uk/residential-plans/>

Some suggestions

- **VOIP service providers in the UK offering PAYG**
- <https://www.phonely.co.uk/services/residential-voip> £10/m
- <https://www.comgw.uk/product/voip-r0/> calls 5p/min UK; 6p/min international
- <https://www.comgw.uk/product/voip-r5/> £5/month 500mins/m; 5p/min international
- [[500mins*5p = £2.50 so why are they charging £5/m????]]
- <https://talk.voipon.co.uk/product/payg-voip-package/> £3.49/m +
- <https://www.orbtalk.co.uk/pay-as-you-go-payg>

How much does it cost?

- Transferring your number – between £0 and £30

NOTE you should let the new provider cancel your existing contract!

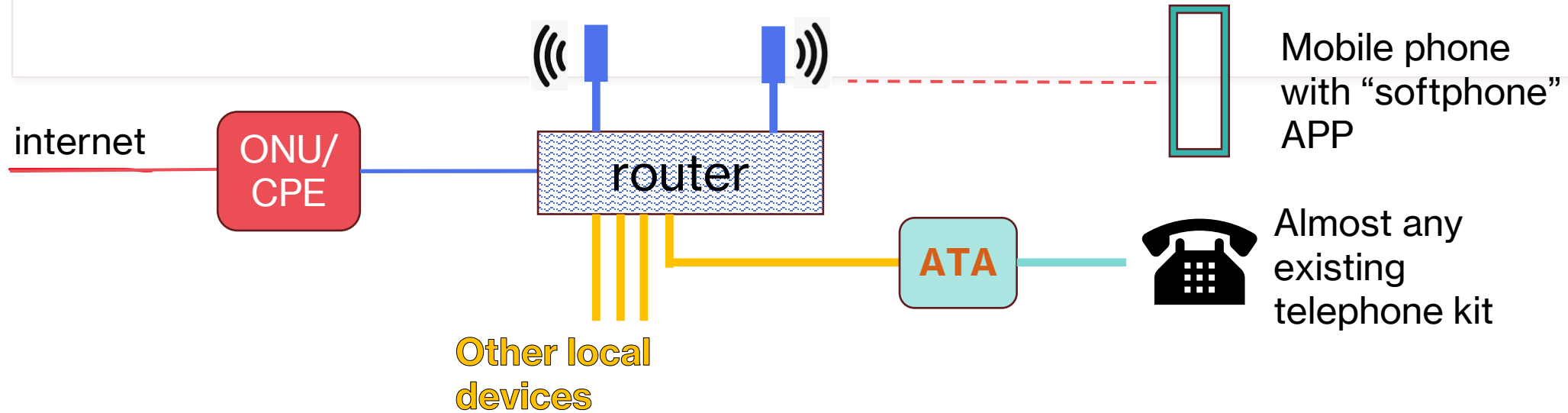
- PAYG:

- **£3.50/month** for new telephone number or transfer your old number.
- **0.006p/min to 0.02p/min UK**; some mobile services (0700....) 1p/min
- **0.02p/min (Canada,USA) to 0.5p/min (Anguilla,Antartica)**

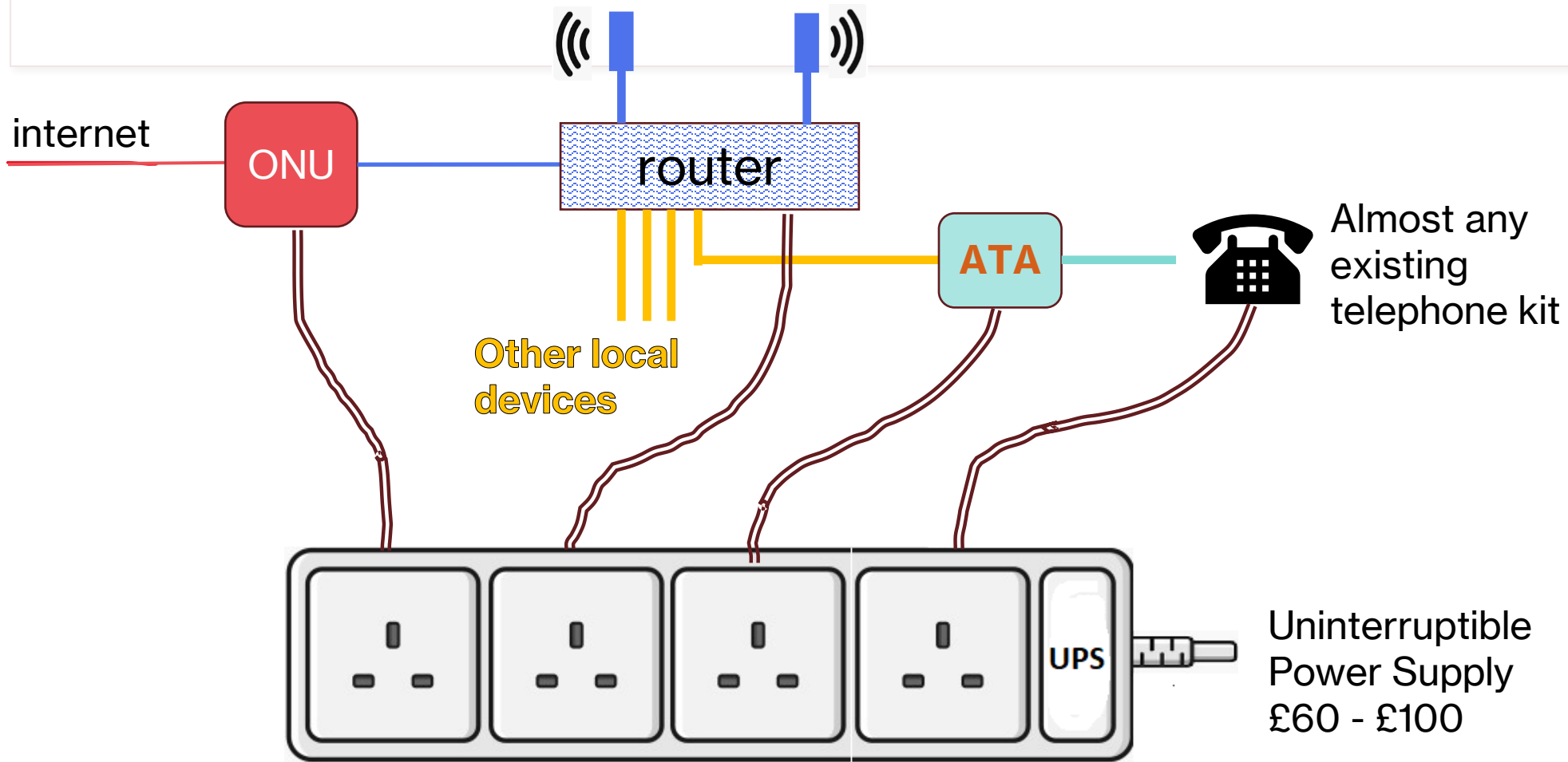
How much does it cost?

- 100 minute/month plan £5/month
 - 500 minute/month plan £11/month
 - Unlimited UK, international, landline, mobiles £25/month (if you spend more than 40 hours a month on the phone)
 - Transferring your number – between £0 and £30
- NOTE you should let the new provider cancel your existing contract!**

Basic connection



AC Advanced connection



Uninterruptible
Power Supply
£60 - £100

4 x 25W = 100W
100+50% = 150W
But most SLA
battery UPS are
>600W

Logging in to your VOIP account

- Learn to use the account information:

- [Log in](#)

The screenshot displays the Voipfone account dashboard. At the top, the Voipfone logo is on the left, and navigation links for Dashboard, Account, Services, Package Builder, Hardware, and Help & Support are in the center. On the right, there is a shopping cart icon with '0' items, a user profile icon with a balance of £10.44, and the account number 30209386. Below the navigation bar, the account name 'Account 30_00309' is shown on the left, and a yellow 'Help' button is on the right. The main content area features a grid of service tiles, each with an icon, a title, and an 'Add to Your Package' button. The tiles are: Numbers (Active: 2), Extensions, Groups, Voicemails (0 voicemails), IVR Switchboards, Cloud Recording, Call Me Back Pro, Call Queuing, Call Barring, Custom Music On Hold, SMS Packages, Auto Top Up: £20 (Trigger Level: £10), Landline Minutes, and Mobile Minutes.

Voipfone Dashboard Account Services Package Builder Hardware Help & Support 0 £10.44 30209386








Account 30_00309 [Help](#)

- Numbers** (Active: 2)
- Extensions** (Add to Your Package)
- Groups** (Add to Your Package)
- Voicemails** (0 voicemails)
- IVR Switchboards** (Add to Your Package)
- Cloud Recording** (Add to Your Package)
- Call Me Back Pro** (Add to Your Package)
- Call Queuing** (Add to Your Package)
- Call Barring** (Add to Your Package)
- Custom Music On Hold** (Add to Your Package)
- SMS Packages** (Add to Your Package)
- Auto Top Up: £20** (Trigger Level: £10)
- Landline Minutes** (Add to Your Package)
- Mobile Minutes** (Add to Your Package)

Incoming call log in your VOIP account

Date/Time	From	Actions	To	Duration	Cost
29/06/2024 17:40	30227297*200		01327 857066	1:49	£0.0000
29/06/2024 11:01	01295 760734		01327 857066	0:40	£0.0000
28/06/2024 18:03	07562 943017		01327 857066	1:25	£0.0000
26/06/2024 14:17	07860 727765		01327 857066	2:16	£0.0000
25/06/2024 12:32	01327 358264		01327 857066	3:38	£0.0000
24/06/2024 16:16	01302 591541		01327 857066	0:25	£0.0000

Outgoing call log in your VOIP account

Date/Time	From	To	Actions	Duration	Cost
29/06/2024 15:15	30209386	07966 509768		0:25	£0.0360
29/06/2024 10:40	30209386	01295 760734		0:01	£0.0120
25/06/2024 11:40	30209386	0800 988 6123		3:54	£0.0000
25/06/2024 10:28	30209386	01327 829202		0:42	£0.0120
24/06/2024 09:58	30209386	07796 758535		1:23	£0.1200
21/06/2024 16:28	30209386	01327 860270		0:48	£0.0120
21/06/2024 15:59	30209386	01327 860270		6:41	£0.0840
21/06/2024 14:37	30209386	01327 857356		0:43	£0.0120
07/06/2024 16:38	30209386	01280 700392		8:57	£0.1080
07/06/2024 11:58	30209386	01327 323033		0:14	£0.0120
04/06/2024 15:14	30209386	01327 860102		0:14	£0.0120
03/06/2024 14:16	30209386	01327 857083		8:32	£0.1080

References

- The government guidelines:
<https://www.gov.uk/guidance/uk-transition-from-analogue-to-digital-landlines>
- The difference between POTS and VOIP:
<https://www.axvoice.com/What-is-the-difference-between-VoIP-and-PSTN.html>
- The OFCOM position:
<https://www.ofcom.org.uk/phones-telecoms-and-internet/advice-for-consumers/future-of-landline-calls>

Summary

- **DO NOT GO ANYWHERE NEAR YOUR CURRENT PROVIDER**
- Choose your VOIP provider (VP), your 'plan' (monthly or PAYG), your ATA/phone.
- Complete registration with VP
- Complete existing number transfer with VP
- **DO NOT GO ANYWHERE NEAR YOUR CURRENT PROVIDER**
- Await delivery of ATA and install on to your network (do not transfer phones)
- Await notice from, or timing of the completion of the transfer of your number
- Log in to your Voip service and adjust any parameters e.g. auto top-up
- Enjoy

Advanced

- **If you buy your own ATA, you will be faced with programming it:**
 - Proxy: sip.voipfone.net
Use outbound proxy: No
Outbound proxy: sip.voipfone.net
Use OB Proxy in Dialog: Yes
Register: Yes
Make Call without Reg: No
Register Expires: 60
 - Everything else can be left on its defaults in the Proxy and Registration section. BUT:
 - Dial Plan: (09!**999S0**|1**xxS0**|118**xxxS0**|00**[1-9]x.**|<**01327**>**[2-8]xxxxxS0**|0**[1-9]xxxxxxxxxS0**|***x.**)

Advanced

- **Typical services available with VOIP phones**

- 🎵 Music On Hold
- ➔ Call Diverts
- 🌐 Managed Broadband
- 🎧 Voipfone PA
- 👤 Address Book
- 📅 Calendar & Alerts
- 💬 Voicemail
- 📊 Call Records
- 🕒 Call Recordings
- 🚫 Call Barring
- 📱 Mobile Services
- 🌐 Web Services
- 🗣️ Call Conferencing
- 🔄 Call Me Back
- 📠 Fax Services
- 🚑 Emergency Services

DC Advanced connection

