

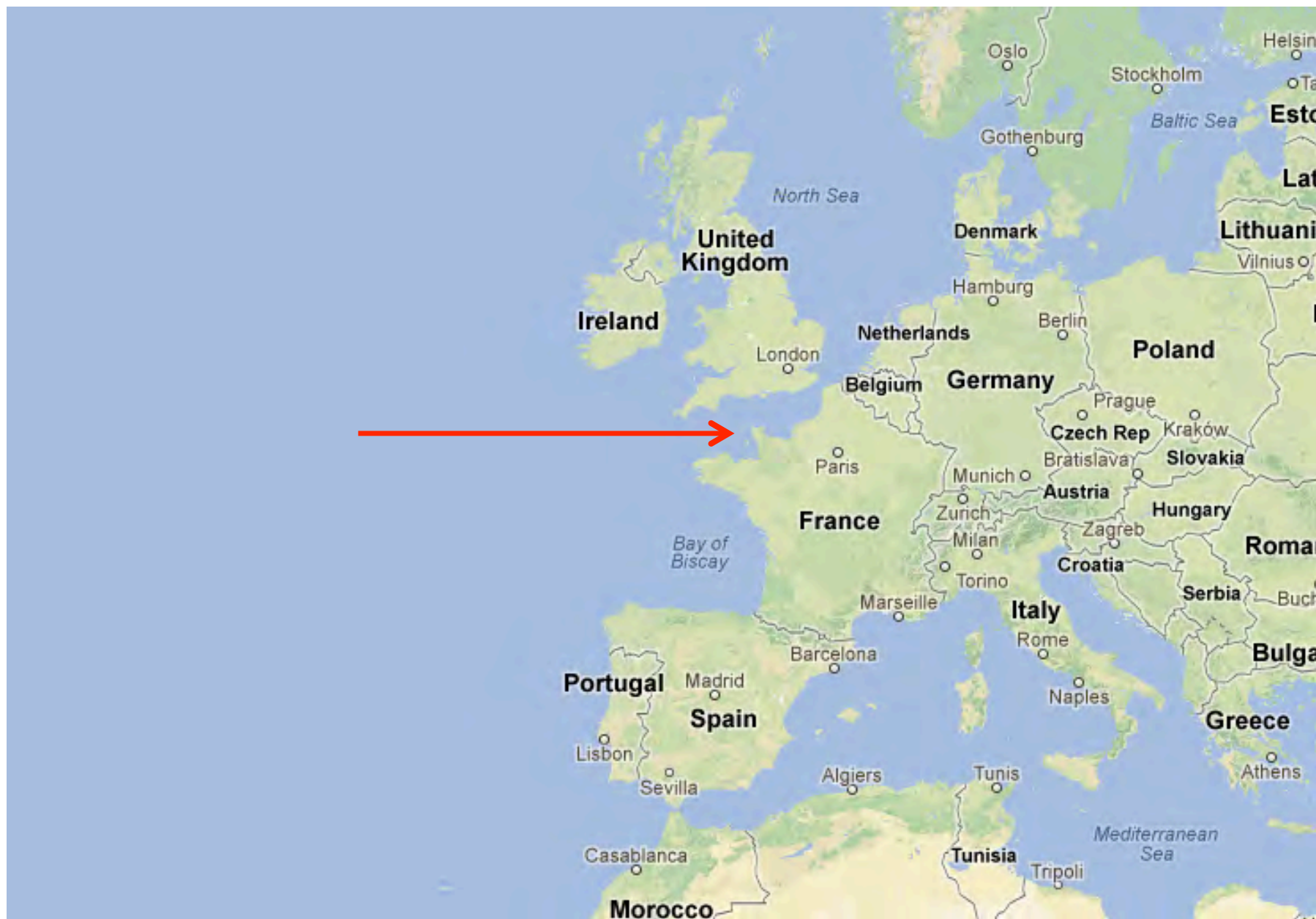
The Nest Wireless HotSpot Network, Guernsey (Channel Islands)

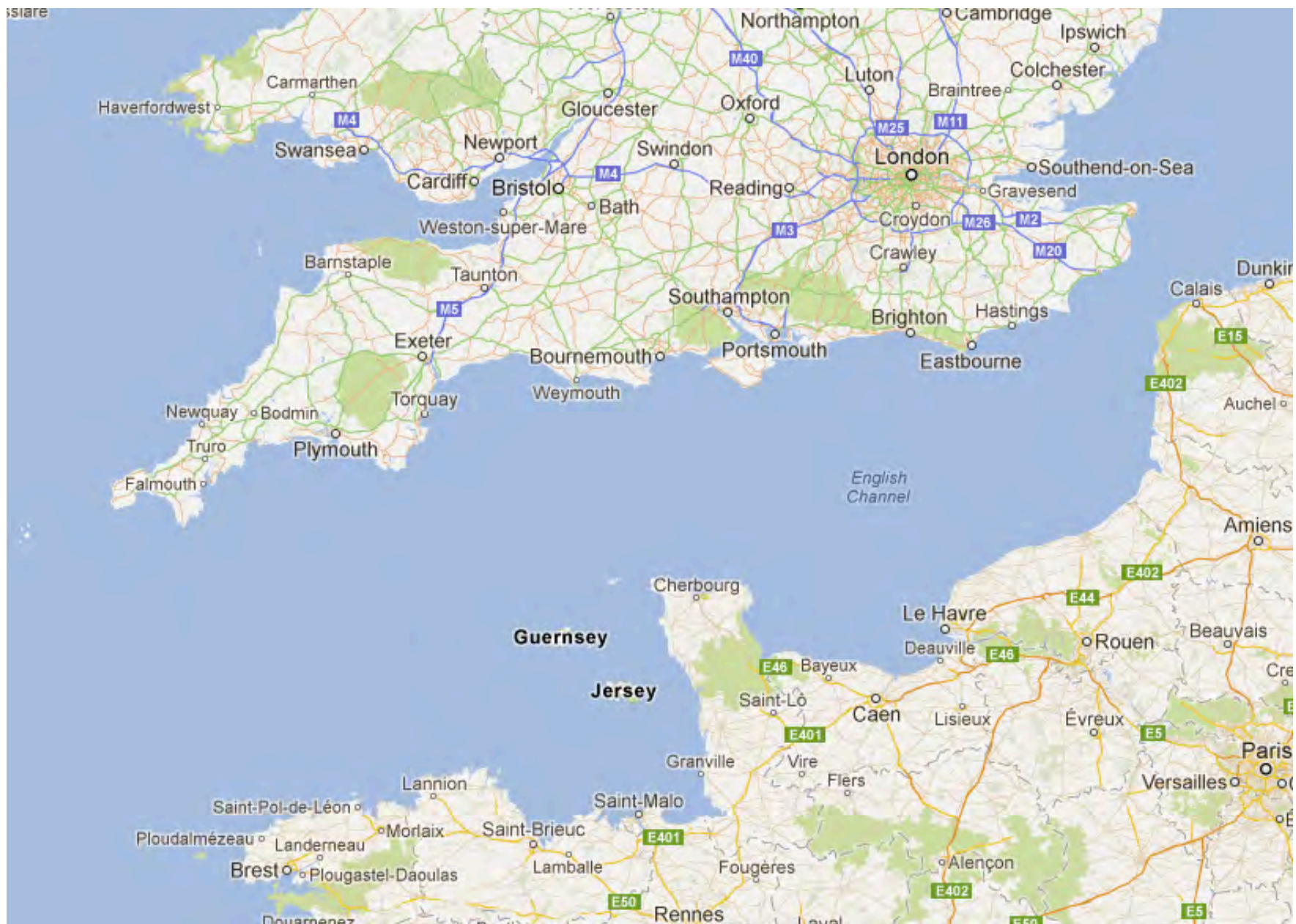
or

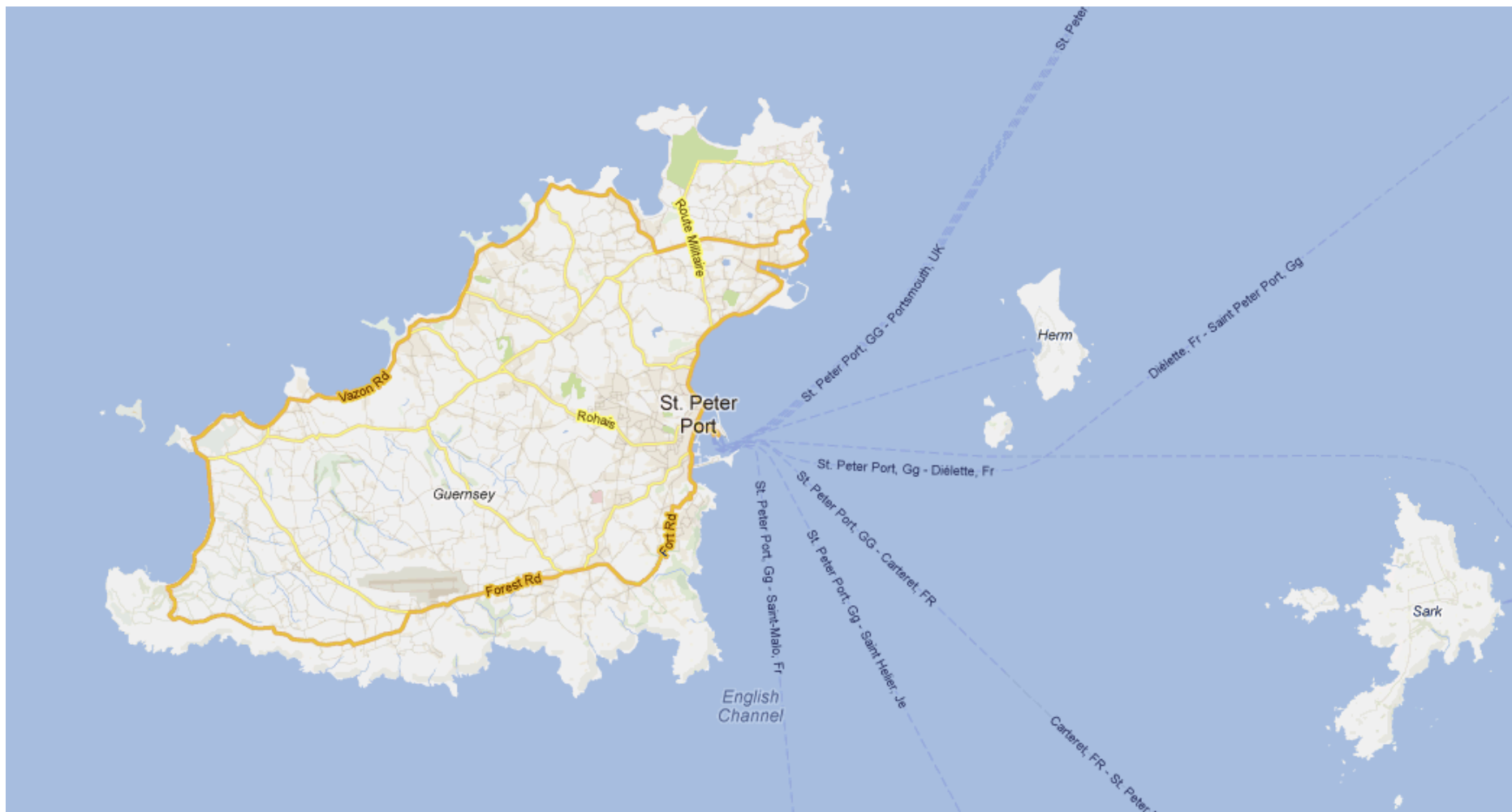
using a MikroTik Hotspot solution for Marinas

by Ron Touw

MultiThread Consultants (LinITX.com)







“Location, location location!”

Plan your sites well:

- High Population Density?
- ‘Cornered Market’?

Additional Services?:

- CCTV / Webcams for tourism

“Location, location location!”

But what about RF Performance?

- End user is mobile device
 - Poor antennae
 - Low power
- Noisy environment

“The weakest link”

“Location, location location!”

Good locations?

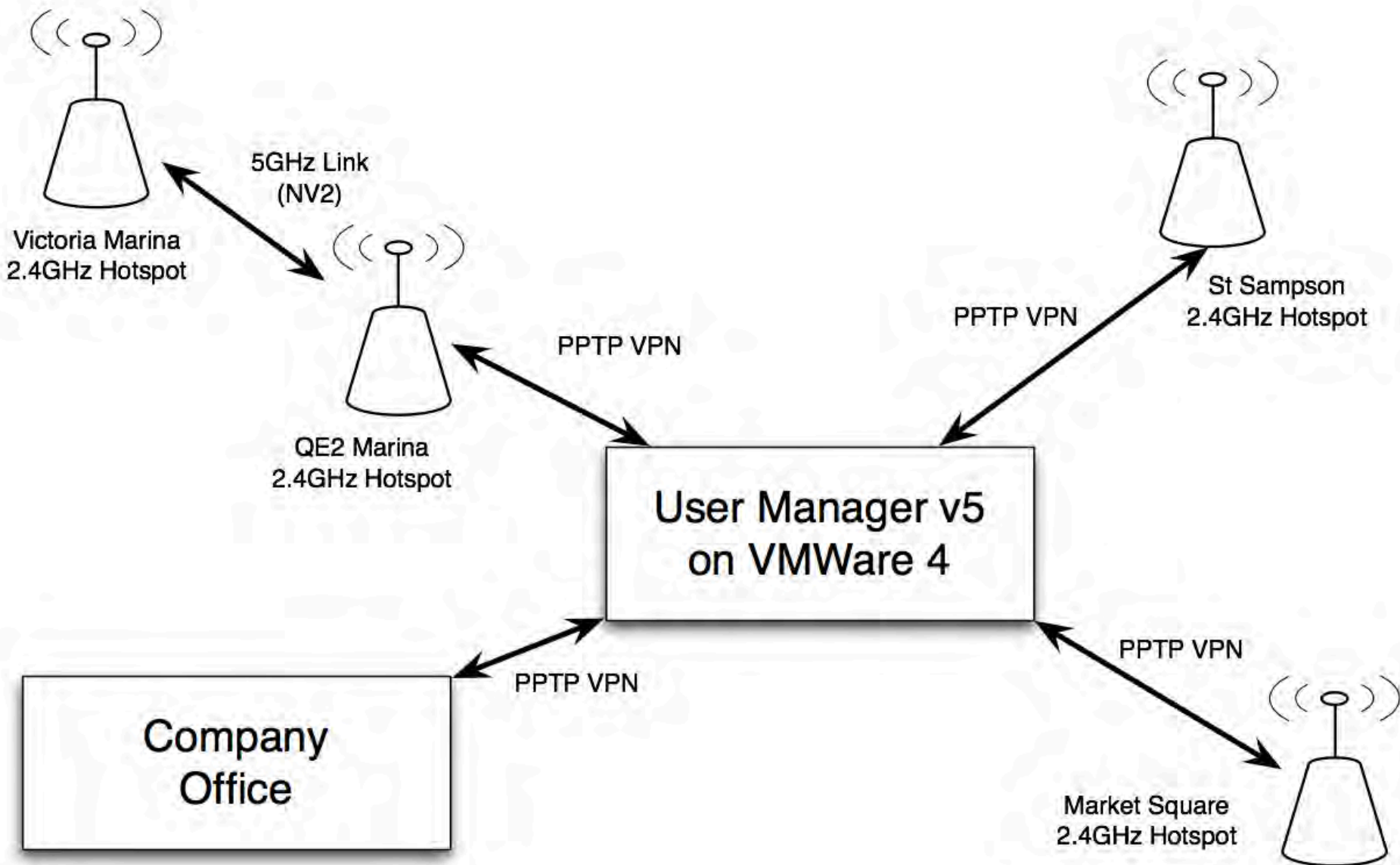
- All Marinas in Guernsey & the Main Town Square, St Peter Port

Good performance?

- Use low cost & high performance equipment (MikroTik!)
- Use the right good quality aerals
- Choose good physical aerial siting

Using Right Equipment

- Still using original RB532A's, some RB433AH's and a RB800 for Hotspots
- VMWare 4 hosting UM v5 in central data centre for AAA and PayPal payments
- All inter-connected using PPTP VPN for Radius (and OSPF for routing ensures it is easy to remotely maintain from central office)



RF Problems

Choosing the right location for AP!



Large metal objects – blocks and reflects RF signals



Tall metal masts – blocks and reflects RF signals



Siting aerial too low delivers poor signal levels to laptops



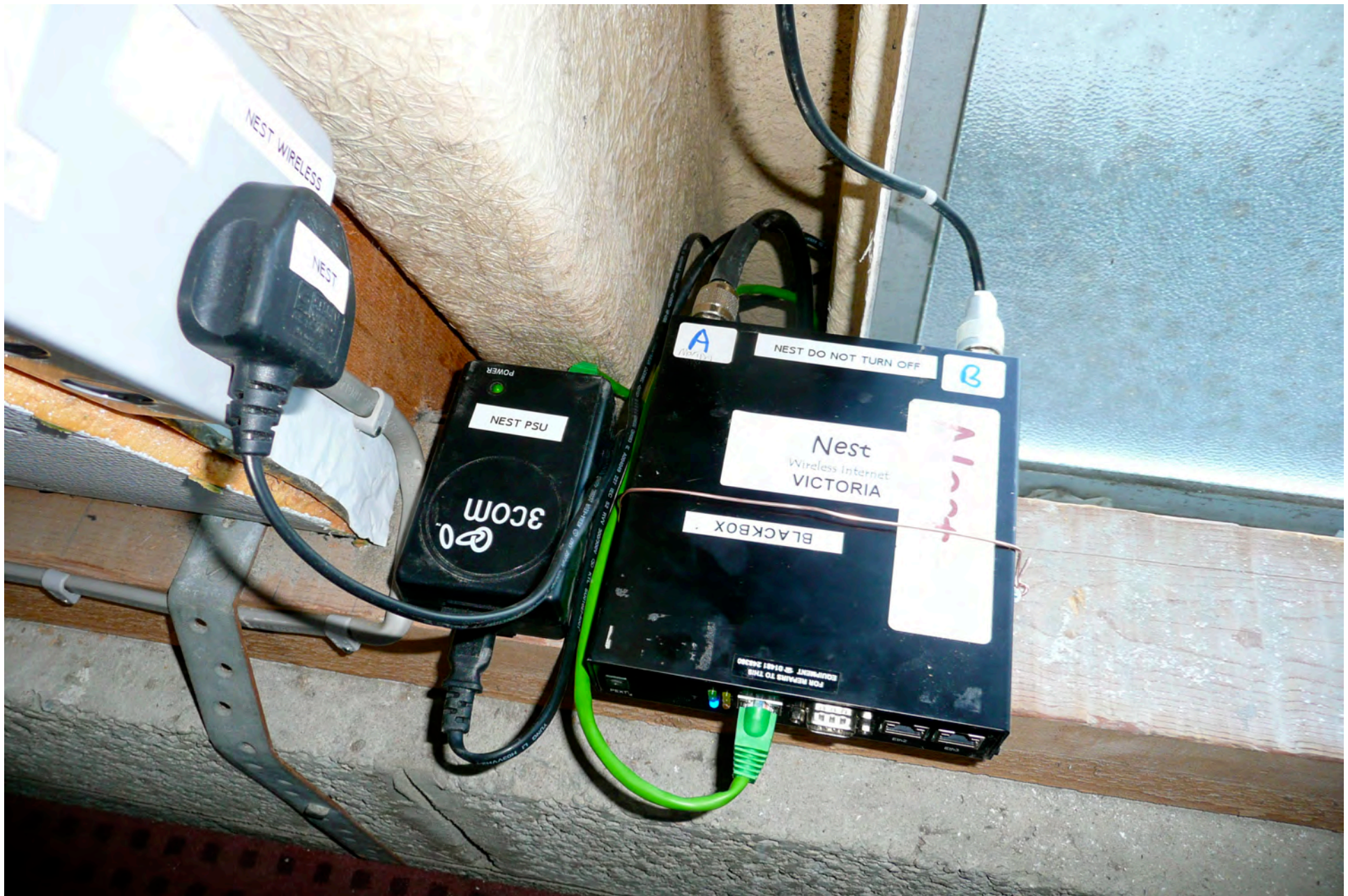
Siting aerial higher and with down-tilt allows obstructions to be avoided and resulting in higher Signal to Noise Ratios



Utilising a high gain 120 deg sectorial antenna with down-tilt allows the client to be received much better by the wireless card than mounting an omni on Harbour Master Office 😊

Tx Power is minimised too, thus increasing life of the wireless card.

Low loss coax used, even at 2.4GHz



Original RB532A with 5Ghz backhaul & 2.4Ghz Hotspot

Final Adjustments

Customise the login and UserManager

Customise Hotspot login.html

Nest WiFi

Internet 20p/day
On 1 Year Contract

Create New Account

Top Up Existing Account

Contact Us

Nest Home Page

Encrypted Service

Current Rates

Conditions Of Use

Code Of Practise

Welcome to Nest Wireless serving the QE2 Marina.

If you already have an account with Nest, please login on the right (remember that your username and password are case sensitive).

If your account has expired, you can add more credit by clicking the topup button or you can create yourself a new account by clicking the "Create New Account" button on the left.

We use the secure and trusted services of PayPal to accept payments. You do not normally need a PayPal account as PayPal will accept payment on our behalf using most credit cards.

If you need help please use our contact form or write to us. For more information click on "Code Of Practise" button. In order to keep the service at a reasonable rate, our overheads naturally also have to be low, therefore all communications with us must be either in writing or by email.

Please see our website for further in depth details - Nest Home Page (Click the button on the left). You can always access our home page, even if you do not have an account or your time has expired.

Existing Users

Please Login Here

Username

Password

OK

Nest
Wireless

[If you are having problems, please contact us here.](#)

Web Design By
(c) Alexander Bird, 2012

Alexnet



Nest
Wireless

Nest Wireless User Manager

Your email

Choose username

Choose a password

confirm password

Amount of required time

time (price) 2. 1 day (5.50 GBP) ▾

pay with ☒ PayPal

Customise UserManager – change Logo & colour scheme

Final Problems?!

You can have control over nearly everything you 'own'

But what about you do **not** own?

PayPal?!!

PayPal's DNS and IP Walled Garden!

PayPal provide some information on IP ranges used on their web servers to be 'whitelisted'

Can that information be trusted? No!

Solution?

PayPal's DNS and IP Walled Garden!

"Dig www.paypal.com" :

```
www.paypal.com.          105    IN      CNAME  www.paypal.com.akadns.net.
www.paypal.com.akadns.net. 22     IN      CNAME  wlb.paypal.com.akadns.net.
wlb.paypal.com.akadns.net. 22     IN      CNAME  www.paypal.com.edgekey.net.
www.paypal.com.edgekey.net. 60    IN      CNAME  e6166.b.akamaiedge.net.
e6166.b.akamaiedge.net.   1      IN      A       2.21.178.234
```

But it keeps changing every 15-30
seconds!

PayPal's DNS and Walled Garden!

Use Scheduled Script to perform regular DNS lookups and insert A results found (via numerous CNAMEs) into Hotspot IP Walled Garden

See Forum post from magomez :

<http://forum.mikrotik.com/viewtopic.php?f=2&t=45098&start=0#p290630>

But also add 'mobile.paypal.com' to script as well otherwise iPhones and iPads etc will have problems!

A vibrant sunset over the ocean. The sun is a bright yellow-orange circle on the horizon, partially obscured by dark, silhouetted clouds. The sky is a mix of deep purple, pink, and orange. The water in the foreground is dark with small, shimmering ripples.

Thank You!

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