NHSbuntu

An operating system for the NHS

Rob Dyke

- Founder of Neova Health, an open source first business
- Healthcare IT Champion - Runner-up!

- Co-founder HANDI, openGPSoC

Dr Marcus Baw

- General Practitioner & Emergency Physician, former Anaesthetist
- Clinical informatician / ‘General Hacktitioner’
- NHS.UK Alpha, RCGP HIG, Endeavour Health, Apperta Foundation, Eyedraw/OpenEyes, Professional Records Standards Body, NHS Healthy Child Programme, NHS WiFi Programme, NHS Hack Day, CCIO Network, UKHealthCamp, Clinical Software Usability Survey 2015-2016...
- *Concerned about the sustainability of an NHS that is totally dependent on Microsoft and other proprietary products, when clinical demands are ever increasing and we can’t just ‘buy more software bling’ to solve them all*
- *‘Open Source is the Only Way For Medicine’*

The obligatory overview slide

What we've made

What it can do

Why we made it

What you could do

What we've made

(Show The Thing….)

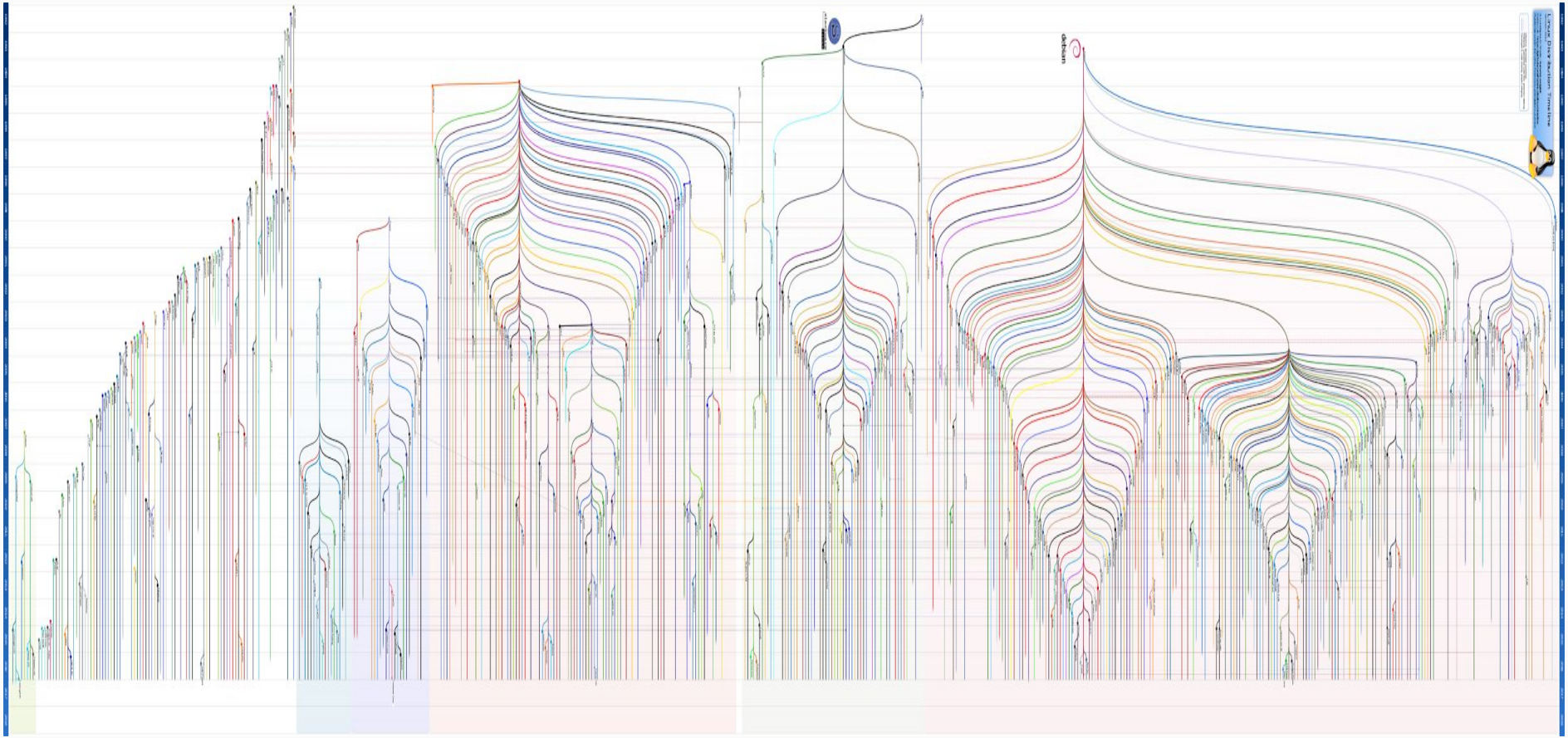
https://gdsengagement.blog.gov.uk/2016/11/04/what-we-mean-when-we-say-show-the-thing/

What is Linux?

- A free, open source UNIX based operating system
- Released 1991 by Linus Torvalds, Finnish Computer Science student
- Now running on 96.6% of the world's top 1 million websites
- It's the operating system inside Android devices and Chromebook laptops
- It's used by the giants of the web including Amazon, Facebook and Google
- Apple, Oracle, and IBM all use free UNIX variants

What is Ubuntu?

- Ubuntu is ‘Linux for Human Beings’
- A more friendly wrapper around Linux
- Backed by Canonical, who provide support services
- The most popular Linux variant, with millions of deployments worldwide
- We have taken Ubuntu and pre-configured it to work with the NHS’s most common needs and requirements.



Incomprehensible systems diagram

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What it can do

80%

Administrative

20%

Clinical

80%

- Docs, Spreadsheets, Slides
- Email & messaging
- Web sites
- Print
- Scan

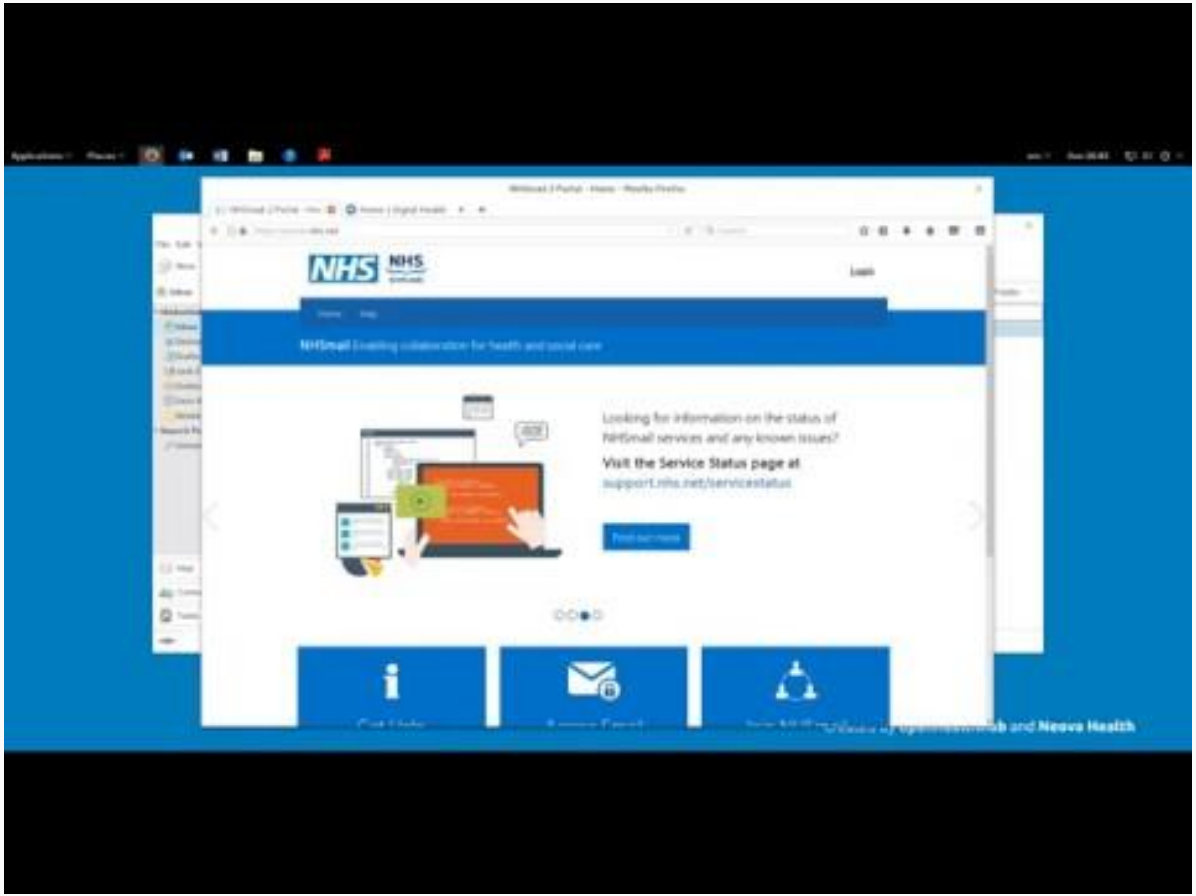
80%

NHSbuntu

- Libre Office suite
- NHSmail2 Email
- NHSmail2 Messaging
- Two MODERN browsers
- Windows ‘shared drive’
- Network printers
- Scanner app / drivers

80%

NHSbuntu - the ‘back office’ use-case



80%

Administrative

20%

Clinical

20%

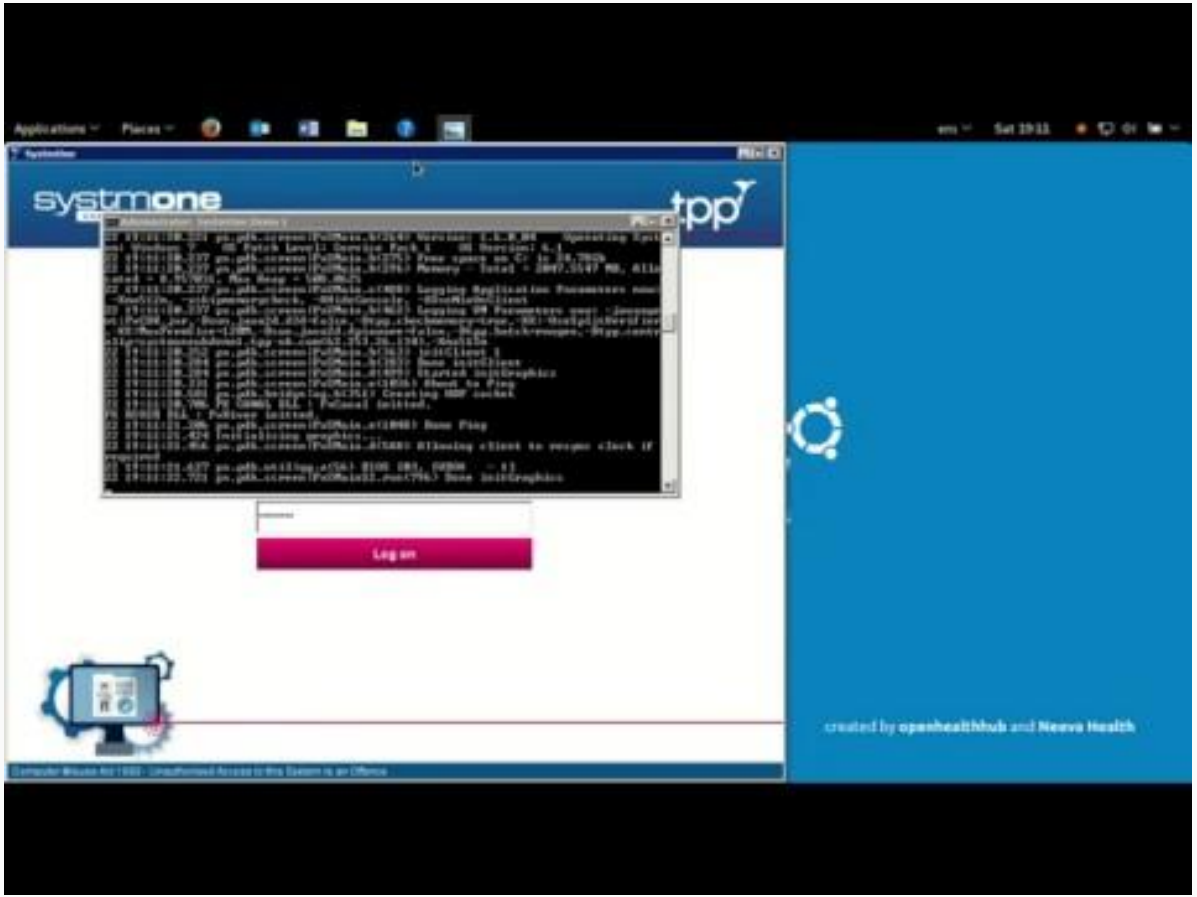
- PAS / EPR / GPSoC
- Clinical portals
- Spine / NCRS / SCR
- Multiple users

20%

NHSbuntu

- Clinical apps!
- Use IE & modern browsers
- Smartcard authentication
- Rapid user switching

NHSbuntu - seamless clinical apps



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Why we made it

£18,200,000

Do our sums add up?

£700 to license a new machine.

1300 machines / organisation.

20 orgs represented today.

5 year lifetime of applications.

Sources: South Devon and Torbay CCG, SXSW CIO attendee list, Microsoft Windows lifecycle factsheet, and 'best guestimation'

Life after the NHS EWA looks complex and expensive.

MBSA / PSA

EA / ESA

CAL / SCE

MOS / EOS / AOS

https://www.microsoft.com/en-gb/Licensing/licensing-programs/how-volume-licensing-works.aspx

‘Paperless 2020’ could coincide with ‘Windowsless 2020’

- Windows 7 End Of Support: **January 14th 2020** [reference].
- New hardware will not work with older Windows versions [reference]
- Old hardware may not perform well with Win 10 anyway
- Clinical apps may not work with Win10 or Edge Browser/IE11

Put together, these facts mean:

1) You have to migrate to Win10 before 2020
2) You have to **replace all legacy clinical apps** before 2020, to do 1)
3) You need to upgrade all your hardware in order to do 2)
4) You can’t afford to do 1), 2), and 3) at the same time (cash/staff/training)
5) **You’re stuck**.

Can’t afford to encrypt, can’t afford **NOT** to encrypt.

- Required to use encryption to protect data
- Few (none?) products cover legacy operating systems
- Non-compliance has financial penalties
- Reputation at risk if data leaks

Put together, these facts mean:

1) You have to **buy** encryption software
2) You have to find software for **all your windows versions**
3) You have to implement it **everywhere**

NHSbuntu includes full disk encryption for free.

Windows 10 **is not fit for the NHS?**

- Windows 10 sends data to Microsoft **in over 30 ways** (incl **raw keystrokes**)
- This **can** be over-ridden in your org - but it is extra work, and not easy
- **Third party / home PCs accessing NHSMail, VPNing into trust systems are beyond organisational controls**, and may leak data, so as we develop wider data sharing, it will be impossible to prevent keystrokes being sent to Redmond, WA, USA.

Put together these facts mean:

1) You may not be able to stop privacy-critical PID keystroke data being sent to Microsoft via Windows 10 PCs
2) You need to think hard about whether Windows 10 is fit for the NHS.

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What you could do

What you *could* do

- Laugh at us and imagine that these problems will **go away**….
- **Wait** for Full Disk Encryption to be built into Windows
- Ask Microsoft to please **stop hijacking** keystroke data in Windows 10
- Ask clinical systems suppliers to update **unmaintainable, legacy** systems for modern browsers and OSs, and hope you can afford it.
- Wait for **another EWA** and help / guidance from NHS Digital on Windows issues
- Ask for some **more money** from NHS England / Treasury / Jeremy Hunt

What you ***should*** do

- Allocate 10% of your combined license spend to NHSbuntu.

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Questions

What you get **right now**

- **A complete secure desktop OS**
- **Full disk encryption** as standard
- **NHSMail2 integration** including calendaring, and AD integration
- **Comprehensive Office apps suite**
- **Modern Web browsers** for all your web-based stuff
- **Legacy Windows app support**
- **Better performance from older machines**, for longer

NHSbuntu - installing NHSbuntu