



# Welcome

- Feel free to use the Chat option or use the Raise Hand option
  - (click on it to share comments & questions)





- Please keep your mic on mute, until needed to speak
  - (click the mic icon, to toggle mute/unmute)





- Feel free to keep your camera on (or off)
  - (click the camera icon, to toggle on/off)







### **Agenda**

### Welcome: Ronald Haynes

- 1 Welcome to Cambridge
  - Ian Leslie (video) / Richard Hey
- 2 IT Within the University
  - Ronald Haynes / Richard Hey
- 3 The User & User Admin
  - Richard Hey
- 4 University-wide services
  - Ronald Haynes
- 5 The Network
  - Richard Hey
- 6 Q&A

- 7 Security & You
  - Ronald Haynes
- 8 Professional Development
  - Ronald Haynes
- 9 Training Services
  - Richard Hey
- 9 Building the IT Community
  - Ronald Haynes
- 10 Q&A





# Responding to critical tasks and our wellbeing

- We're adapting to new ways of working
- Reduced capacity
- We need to find ways of supporting staff and the community
- Helping each other, the community supporting itself





### Mission and values....

#### **Mission**

"The mission of the University of Cambridge is to contribute to society through the pursuit of education, learning, and research at the highest international levels of excellence".

#### **Core values**

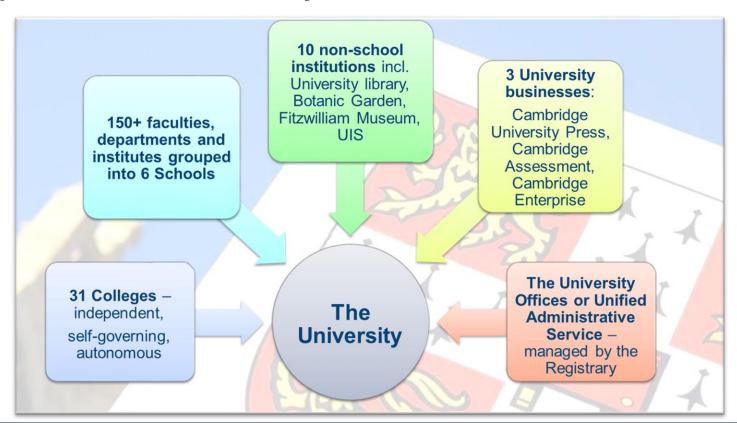
Freedom of thought and expression

Freedom from discrimination

Commitment to the Collegiate model

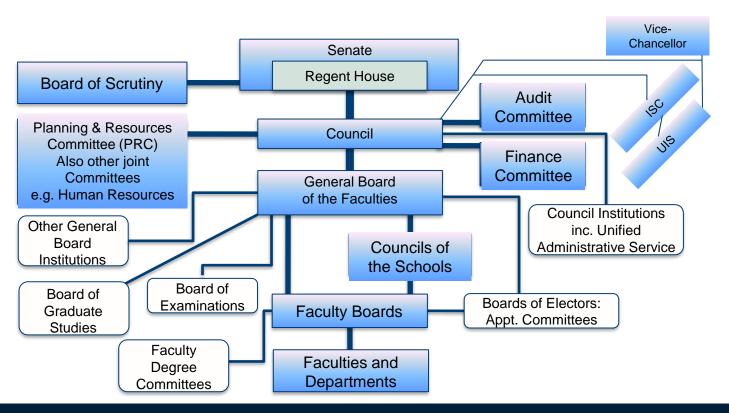


# **Composition of the University**





# **University Council, General Board, Committees**





### **University Governance – evolved over 800 years**



The Regent House and Senate

The University Council

The General Board of the Faculties

Syndicates, Boards and Committees

https://www.governance.cam.ac.uk / https://www.reporter.admin.cam.ac.uk



# **Senior Members of The University**

Chancellor
 Lord Sainsbury of Turville



Vice-Chancellor
 Professor Stephen Toope
 <a href="https://www.v-c.admin.cam.ac.uk">https://www.v-c.admin.cam.ac.uk</a>





### Senior members of the University - Pro-Vice-Chancellors



Professor David Cardwell
Strategy and Planning



**Professor Eilis Ferran**Institutional and International Relations



Professor Graham Virgo Senior PVC for Education



(Vacant) Research

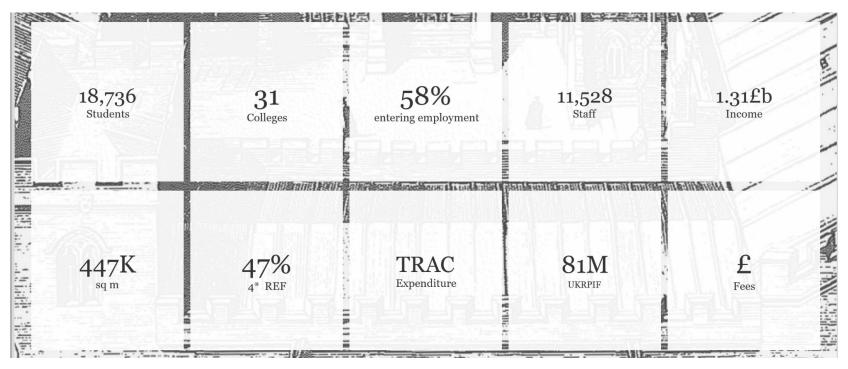


**Professor Andy Neely**Enterprise and Business Relations

www.v-c.admin.cam.ac.uk/pro-vice-chancellors



# Overview of University Statistics – Facts & Figures



https://www.information-hub.admin.cam.ac.uk/university-profile/facts-figures



### Cambridge: an international & culturally diverse community

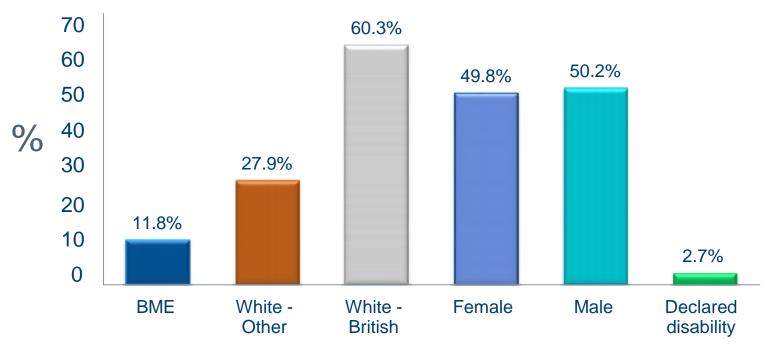
# "Cambridge is more open than ever to talented people and excellent ideas from around the globe"

- Over 30% of undergraduates and 40% of post graduate students and post doctoral research staff from outside the UK
- More than 62,000 overseas alumni in over 190 countries
- International research partnerships and collaborations e.g. Cambridge India, Cambridge Africa
- Close relationships with many international charities and NGOs focused on conservation, education and addressing world poverty





# **Cambridge: a diverse University**

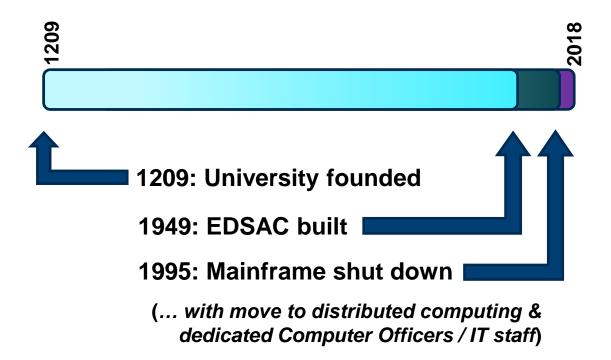


**Diversity of University Staff** 



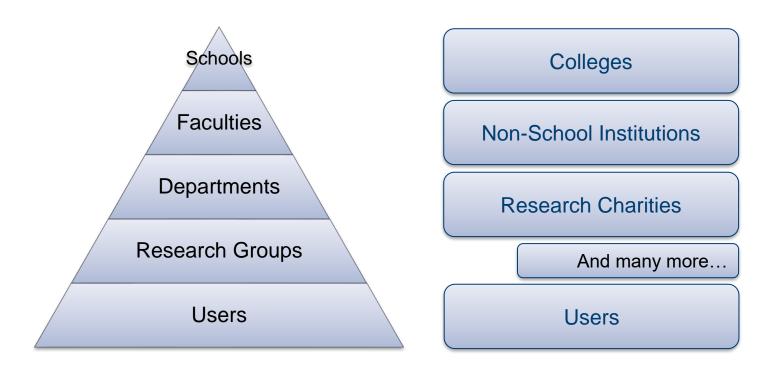


# Background: a timeline of computing in Cambridge





### In Cambridge - what is meant by an 'Institution'?





### **Challenges of distributed model**

- Ease of communication?
- Cost of duplicated effort?
- Concentration of expertise?



# **BUT**

- Greater flexibility, pro-activity?
- Personal, area-specific focus?
- Importance of local community?



### The TechLink Scheme

- Spreads IT understanding and support
  - bringing IT closer to users since <u>1996!</u>
    - see 1998-99 <u>references</u>
- Enables crowd-sourced ideas, projects and solutions
  - provides <u>mailing lists</u>, Service Desk priority, mentoring
- Fosters community and professional development
  - Organises <u>seminars and courses</u>, <u>reports</u>
  - Help share & build up our IT community!



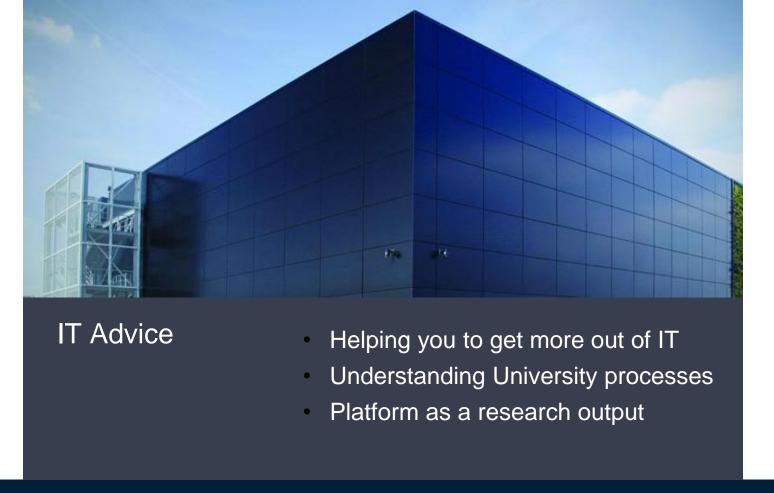




# What we do – some examples.









### IT Portfolios - <a href="https://www.uis.cam.ac.uk/it-portfolios">https://www.uis.cam.ac.uk/it-portfolios</a>

#### Portfolio activity

- Introduced the four portfolios:
   (Education, Research, Business Systems,
   Infrastructure & Generic Services),
   each with a Portfolio Owner
- Ensured all services, systems and projects belong to a portfolios
- Input from Schools and Colleges included in prioritisation and allocation
- Change in governance, replacing ISC subcommittees with Portfolio Boards and Advisory Groups

### Benefits of the portfolio approach

- Transparency across UIS activity
- Clear priorities for UIS for the first time
- Enabled us to reprioritise and allocate UIS staff in response to Covid-19 in a way that was not previously possible

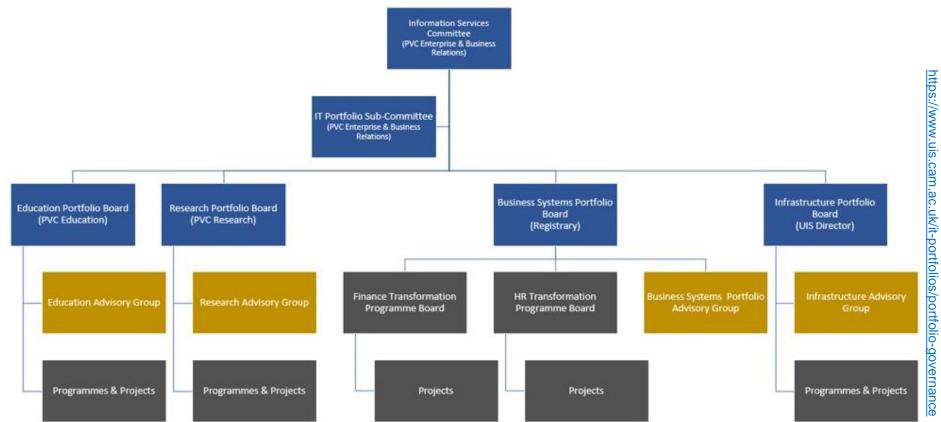
### **Relationship Managers can help**

https://www.uis.cam.ac.uk/about-us/rm



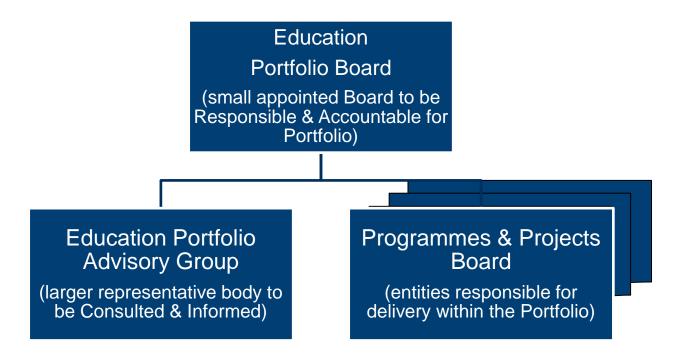


### **Portfolio Governance**





# **Education Portfolio Governance – Example**







### The User

- Common Registration Scheme Identifier CRSid
- Core services:
  - Raven = Authentication
  - Hermes = the old central email service
  - Exchange online = the new email service
  - Desktop Services = Central filestore, printing, managed clusters,
     Windows/Linux/Mac
  - WiFi eduroam & UniOfCam
  - Other services by request SMS, mailing lists, MWS, etc.



# **Cambridge Computing Accounts – 'live'**

Email addresses: ~150,000

Active CRSids: 63,000

Hermes accounts: 47,000

Exchange accounts: ~10,000

Raven: 51,500

Raven4Life: 22,000

DS accounts: 46,500



# jackdaw.cam.ac.uk

- Over 700,000 CRSids
- Pre-arrival registration
- Institutional affiliation records
- Shibboleth attributes derived here
- Falcon CMS
- Managed Wikis
- Managed Web Server
- IP Register
- Datafeeds CHRIS, CamSIS, Card, Lookup etc...



https://jackdaw.cam.ac.uk



### What else?

- Mailing Lists
- TLS Certificates
- CamCORS
- Streaming Media Service
- Managed Mail Domains
- Managed Wikis
- Managed Web Sites
- Falcon Sites
- Lookup Data



### How do we know about new arrivals?

- Data Feeds
- Pre-arrival registration
- Form R1 for Supervisors



# **Pre-arrival registration**

Institution *		<ul> <li>Standing</li> </ul>	* 🔻	Acad. title	•
Forenames *		Surname	*		
Gender	▼	Birthdate		▼ -	
Starting	- ▼-	Leaving		<b>v</b> -	
College	7	Accounts	Raven	■ Hermes ■ ExOL ■ D:	S-MCS
(	Previously in the University				
Previous surname		CrsID			



### How do we know about leavers?

- Data feeds
- People & institutions tell us
- Interrogate Jackdaw





### Day to Day

- Eligibility for accounts
- Account collection problems
- Forgotten passwords
- Confused users
- Account security
- Access to resources
- Summer school tickets



https://help.uis.cam.ac.uk/service/accounts-passwords







# Why re-invent the wheel?





### **Anti-malware service**

- The University has a generous site licence for McAfee VirusScan and ePolicy Orchestrator
- Three flavours (free of charge)
  - Standalone
  - Locally managed
  - Centrally managed





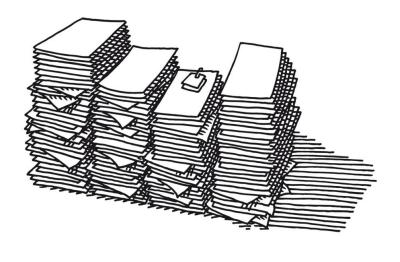
https://help.uis.cam.ac.uk/service/security/antivirus



### **ERP** – (*Enterprise Resource Planning*)

- Many, many systems, including:
  - CamSIS (Student Records)
  - CUFS (Finance)
  - CHRIS (HR)
  - Primarily require appropriate training and a working browser!





https://www.itservices.cam.ac.uk/services/central-systems-and-management-reporting



### **Domain management**

- Domain registration (subject to policy)
- Managed Mail Domains
- Managed Zone Service
- Managed Web Sites:
  - MWS (Managed Web Service)
  - Falcon
  - Drupal





https://www.uis.cam.ac.uk/az



### **Network Security Engineering**

- Computer Security Incident Response Team (<u>csirt@uis.cam.ac.uk</u>)
- Managed Firewall Service
- Intrusion Detection and Prevention
- Virtual Private Networking





https://help.uis.cam.ac.uk/user-accounts-security/security/for-it-staff



### **Training**

Not just for end-users

Taught, self-teach, and online courses

Work toward internationally recognised certifications





https://training.cam.ac.uk/theme/itstaff?providerId=36407



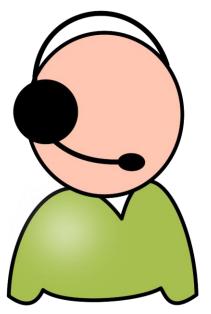
### **Service Desk**

For general help and information about IT services – contact.

E-mail: <a href="mailto:servicedesk@uis.cam.ac.uk">servicedesk@uis.cam.ac.uk</a>

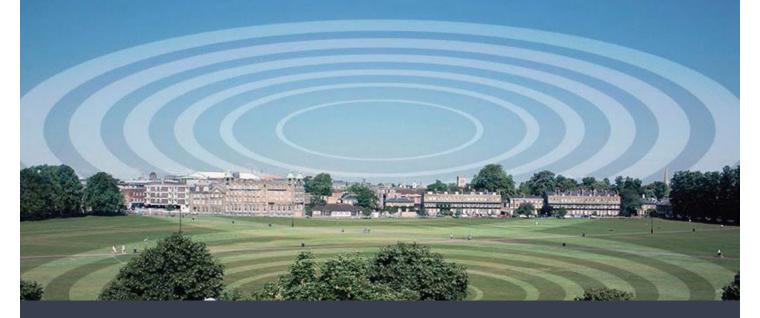
Telephone: (01223 3) 32999











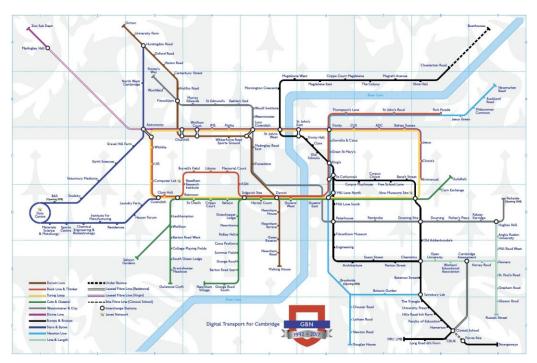
Infrastructure

- Wi-Fi, telephony
- The fibre optic network (GBN)
- Email
- File and data storage



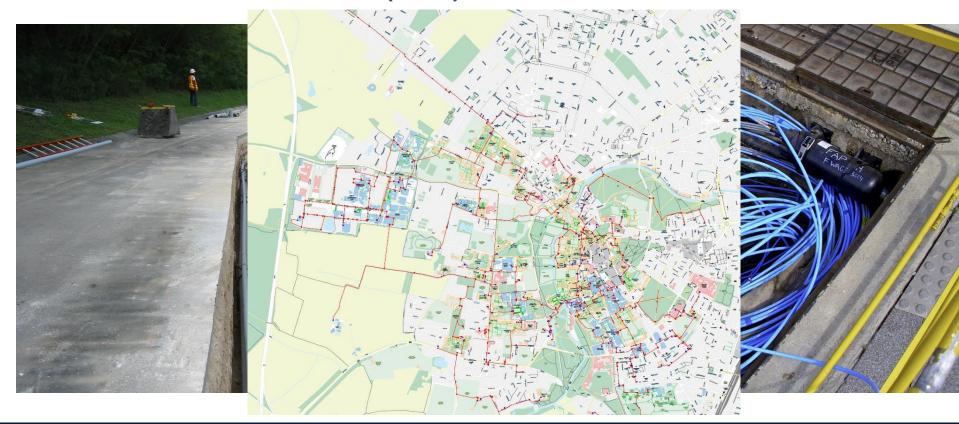
### **Everything you wanted to know about the network**

- GBN Fibre Optic Metropolitan Network
- CUDN Data Network
- Network monitoring & reporting
- Wireless
- Telephony
- Managed Network Service
- IP addresses
- Training courses
- Resources & Questions





# **Granta Backbone Network (GBN)**





### **Cambridge University Data Network (CUDN)**



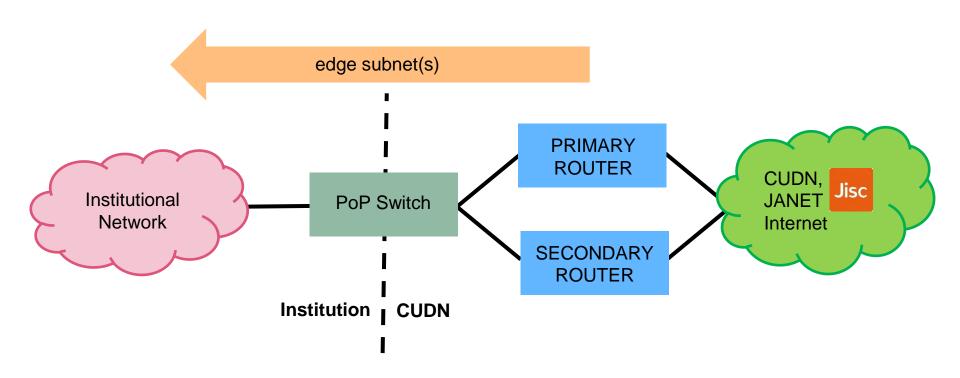


2 x 20Gb

It's actually 3 x (2 x 10Gb), but we don't say this as it confuses people

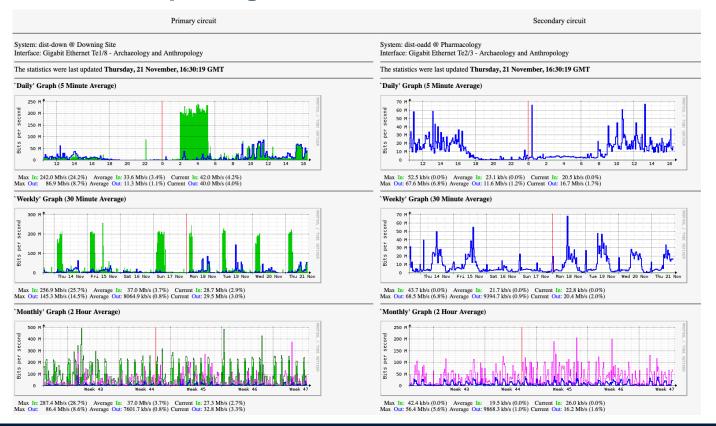


# **Cambridge University Data Network** (CUDN)





# **Network status & reporting – PoP Traffic Stats**





### **UIS Service Status Line**

#### **UIS Services**

Click on the relevant Service Name to edit the status of the service.

Service Name	Service ID	Manual Status	SNMP Status
University Telephone System	12600	Green	Green
University Data Network (CUDN)	12601	Green	Green
Internet (JaNET)	12602	Green	Green
Hermes E-Mail	12603	Green	Green
Moodle	12604	Green	Green
Identity Management	12605	Green	Green
Wireless	12606	Green	Green
CHRIS	12607	Green	Green
CamSIS	12608	Green	Green
CUFS	12609	Green	Green
Remote Access	12610	Green	Green
UAS Email	12611	Green	Green
Exchange Online	12612	Green	Green
West Cambridge Data Centre	12613	Green	Green

#### Edit User - Jon Holgate (Administrator)

Mobile Number	07711500535
Email Address	jh535@cam.ac.uk
Pager Number	
Group	UIS Networks
User Type	Administrator ▼

SMS Messages will be sent to this user when changes are made to the following ticked services

Service Name	Notification Enabled
University Telephone System	•
University Data Network (CUDN)	€
Internet (JaNET)	€
Hermes E-Mail	•
Moodle	<b>⊘</b>
Identity Management	✓
CHRIS	<b>₽</b>
CamSIS	•
CUFS	•
Remote Access	•

https://status.uis.cam.ac.uk



### **University Wireless Service**









#### **PUBLIC ACCESS**

- City centre coverage:
  - Parker's Piece
  - Jesus Green
  - The Mill Pond

#### **UNIVERSITY STAFF & STUDENTS**

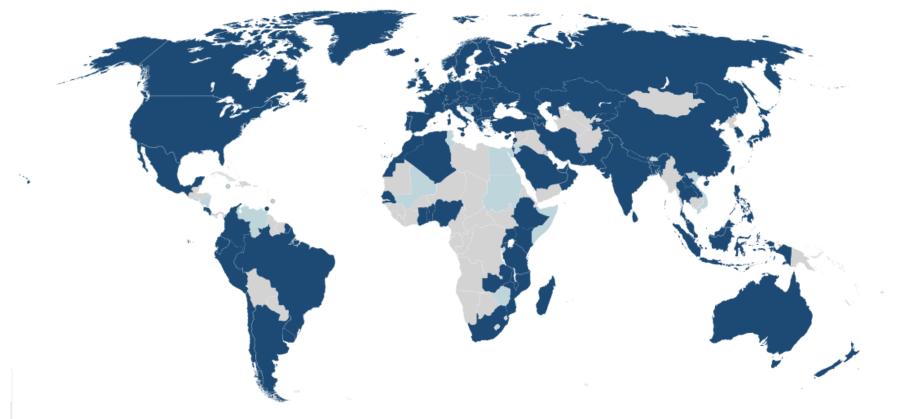
- Authenticate your devices just once
- Stay connected around Cambridge

#### **VISITORS & GUESTS**

- Raven password or Visitor Ticket required
- Non-eduroam users

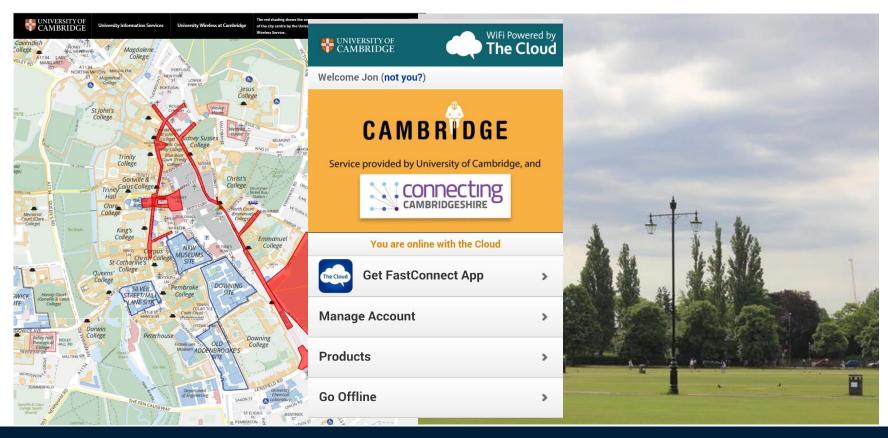


# Where can I Eduroam?





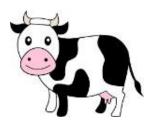
### **Public wireless service**

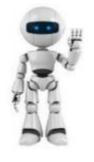




### **Consistent Network**

















**PUBLIC ACCESS** 

**UNIVERSITY STAFF & STUDENTS** 

VISITORS & GUESTS



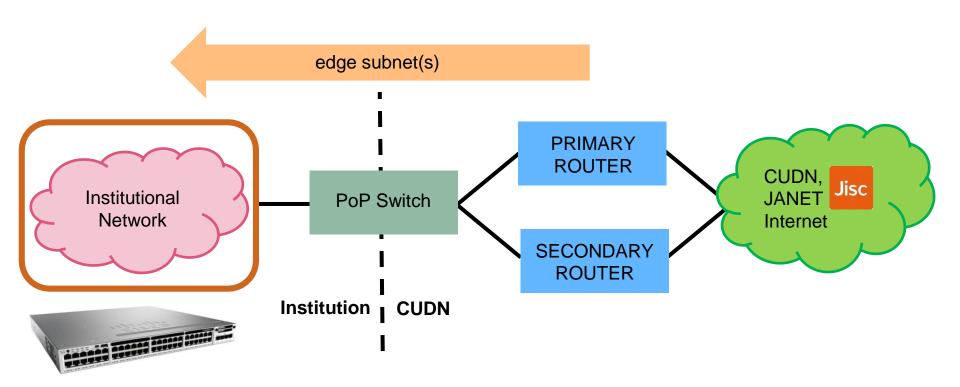
### **Telecoms**

- VoIP
  - Handsets
  - Call logger
  - Voicemail
  - Videoconferencing
  - Conference calls
- Mobile
  - Mobile Devices
  - Mobile Connections
- admin.phone



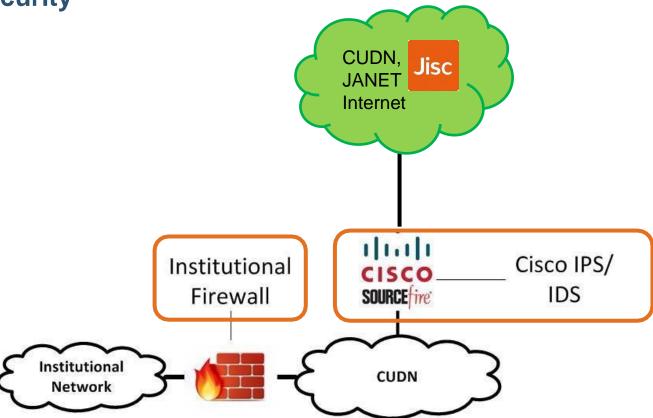


### **Managed Network Service**





# **Cyber Security**





# **IP** Registration

#### IP address registration of single simple systems (jh535@jackdaw)

Management zone:	mzor	ne_info			
LAN:	Subnet base:	Subnet	width:		
Address search ran	ge:	]-			
P address:	info_fo	r_addr hostname:		info_for_	name
rename as	***************************************				
Modify"able fields					
equipment:		location:			
owner:	end us	er:	sysadmin:		
emarks:					



### **Useful links**

https://status.uis.cam.ac.uk

https://help.uis.cam.ac.uk/service/network-services

https://netinfo.uis.cam.ac.uk

https://www.wireless.cam.ac.uk

https://www.phone.cam.ac.uk

https://my.phone.cam.ac.uk

https://admin.phone.cam.ac.uk/telecomms-admin

https://www.dns.cam.ac.uk/ipreg

https://www.training.cam.ac.uk

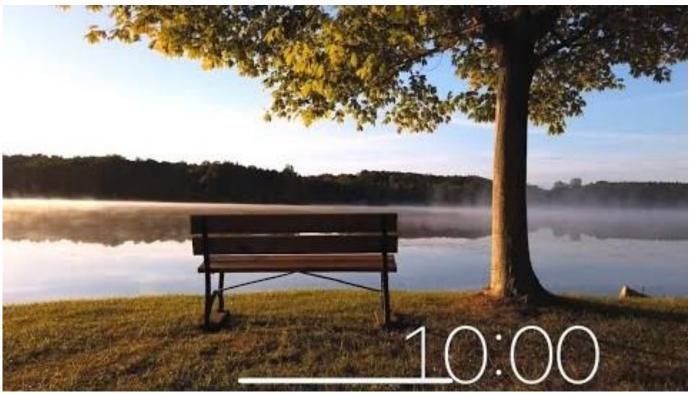




Post your questions on the chat feed or raise your hand.



### Time for a break!



Tick Tock Countdown Timer - <a href="https://youtu.be/bCsoFkTcBSI">https://youtu.be/bCsoFkTcBSI</a>







Identity and access management

- User account management
- University card
- Cyber security
- Managed firewalls



### The Regulatory Environment

#### **Network defenders**

- ISO 27001
- Cyber Essentials
- General Data Protection Regulation (GDPR)
- Data Protection Act (2018)

### **Network attackers**

- Computer Misuse Act (1990)
  - Unauthorised access to computer material
  - Unauthorised access with intent to commit or facilitate commission of further offences
  - Unauthorised modification of computer material
- Regulation of Investigatory Powers Act (2000)



### **Bad Passwords** (predictable strategies)

**Password** 

pAsSwOrD

P455w0rd

123456789

Cambridge123

1qaz2wsx

5201314



### **Good Passwords** (strong and memorable)

The NCSC recommends building strong memorable passwords by concatenating several words together (at least three), e.g.

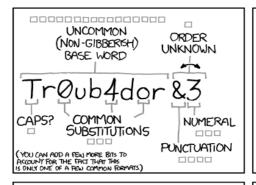
considerfortywater

Replyraisedshoes

# whatshownstep

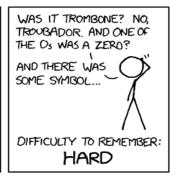


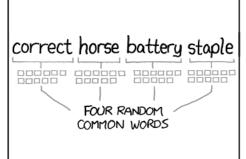
## **Good Passwords** (strong and memorable)



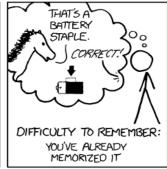


EASY









THROUGH 20 YEARS OF EFFORT, WE'VE SUCCESSFULLY TRAINED EVERYONE TO USE PASSWORDS THAT ARE HARD FOR HUMANS TO REMEMBER, BUT EASY FOR COMPUTERS TO GUESS.



# **Example Bad Passwords**

Stratfor	frogdog
Rootkit	zugang
Rootkit	ub2357
Rootkit	erpland
LinkedIn	5tgb6yhn
LinkedIn	Superman1938
LinkedIn	Fru1tc4k3
LinkedIn	meideprac01
LinkedIn	jose0849
LinkedIn	linkedin



### **Password Best Practice**

1. If you need a password you can remember and enter manually, then use the multiple word pattern, e.g:

# what!shown!step

- 1. If you don't need to ever enter the password manually, then try and use a password manager instead, and get the password manager to generate a very complex password (it's okay, you won't need to remember it).
- 2. Use a different password for every website/service (password managers make this easy).



### Raven



Please take great care with your Raven password.

Your Raven password can be used to gain access to a large number of University systems (e.g. the Lookup Service).

Raven passwords are monetised and sought after by cyber criminals. If you think you may have accidentally divulged your Raven password to anyone, change it immediately by visiting this website:

https://password.raven.cam.ac.uk/



# **Multi Factor Authentication (MFA)**

MFA, typically implemented as Two Factor Authentication (2FA) should be used wherever it is available.

Most popular online services (e.g. Facebook, Gmail) support text message based 2FA, please use it!



# **Biometrics**





# **Phishing**

#### Previous 'catch of the day' examples:

https://help.uis.cam.ac.uk/service/security/stay-safe-online/phishing/phishy

- Don't blindly trust links in e-mails. Always take time to check.
- It is good practice to type URLs into your web browser, instead of relying on a link in an unsolicited e-mail.
- Does the e-mail seem poorly written?
- Does the e-mail address you individually or use a generic salutation?
- Is the language of the e-mail applying time pressure?



# **SMiShing**

SMiShing is similar to e-mail phishing, but is sent to your mobile phone as a text message.

The same rules apply; do not hastily click on links, or reply to unsolicited text messages.



#### **Malware**

Everyone should install anti-virus software, this includes MAC users!

Members of the University can download McAfee for free:

https://help.uis.cam.ac.uk/service/security/antivirus



# Reporting

# Please report all security incidents ASAP:

1. service-desk@uis.cam.ac.uk

2. spam@uis.cam.ac.uk



# **Further Training / Resources**



https://help.uis.cam.ac.uk/service/security



#### **Security Awareness Fundamentals**

https://www.vle.cam.ac.uk/mod/scorm/view.php?id=5420181

#### **Cyber Essentials Scheme**

https://www.cyberessentials.ncsc.gov.uk





#### **Skills Profile**

Personal Skill Profile is a simple, holistic and structured overview of your demonstrated skills

Two dimensions: Technical/Functional Skills and Behavioural Skills



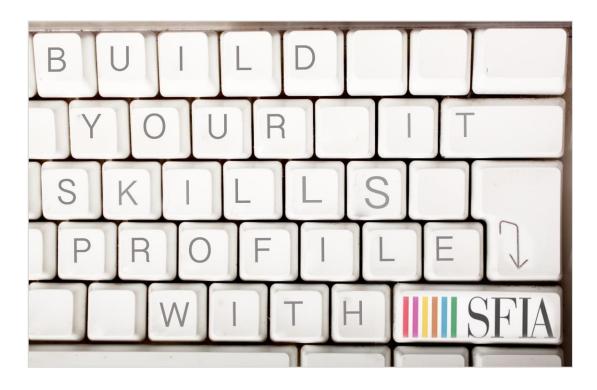
Skills Framework for the Information Age



# How to create my SFIA Personal Skill Profile?

# **Self Evaluation** – Quick Guide

- Analyse current skills
- Identify strengths against global framework
- Identify skills gaps
- Identify learning needs
- Foundation of Continuous
   Personal Development
- Meaningful conversation with line manager
- Identify target jobs



https://help.uis.cam.ac.uk/service/support/help-for-institutions/career-development-for-it-staff-1/professional-skills-profiling-service



# Linked in & Learning- Creating a Culture of Learning

- LinkedIn Learning is an eLearning platform that provides up-to-date professional courses and videos on wide range of technology, business and creative topics
- Staff and students have 24/7 access to the entire library: <a href="https://help.uis.cam.ac.uk/service/help-support/training/linkedin-learning-info">https://help.uis.cam.ac.uk/service/help-support/training/linkedin-learning-info</a>
- Learning Signposts:
   https://help.uis.cam.ac.uk/service/support/training/linkedin-learning-info/learningresources



# **Mentoring scheme**



Mentoring is about building a **two-way learning relationship**, **a culture of growth** in order to support and encourage people to manage their own development, upgrade their skills and become the person they want to be.

"Behind every successful person, there is one elementary truth: somewhere, somehow, someone cared about their growth and development.

This person was their mentor."

Dr Beverley Kaye, Up is Not the Only Way, 1997

https://help.uis.cam.ac.uk/service/support/help-for-institutions/mentoring-scheme





# Training University Wide – Found on the UTBS

#### **Delivered by specialist units:**

- IT Skills
- Management, Leadership, HR, Team working, Comms
- Equality and Diversity
- Procurement and Finance
- Health and Safety

- Research Skills
- Language courses
- Bioinformatics
- Academic Teaching
- Others...

www.training.cam.ac.uk



# **Digital Literacy Skills - Training Services**

- Courses for your end users and maybe you
  - Business Systems (HPC, CamSIS, Chris, Moodle, UTBS, Drupal...)
  - Productivity Tools (Microsoft Office, Adobe)

- Courses for Researchers, PhD, Post Docs and IT staff that support them
- Courses for you as an IT Practitioner to support the T- Shaped Model Broad Business Skills
   Specialist IT Skills
- Service Page: <a href="https://help.uis.cam.ac.uk/service/help-support/training/training-intro">https://help.uis.cam.ac.uk/service/help-support/training/training-intro</a>
- Training/Teaching facilities with desktop and specialist software: <a href="https://help.uis.cam.ac.uk/service/support/training/facilities">https://help.uis.cam.ac.uk/service/support/training/facilities</a>







# Partnerships

- Working with Computer officers
- Dedicated Relationship Managers
- Service-Desk support
- Third party vendor relationships



#### Welcome



# **TechLink Scheme -** Support across the University IT Community

- Community discussions
  - Fortnightly online 'Peer Chats' (since lockdown)
- COGEnT (Cambridge, Oxford, Glasgow, Edinburgh)
  - <u>CompTIA pilot</u> / collaborative CPD project
- TechLink Community Seminars & Past Recordings
  - www.uis.cam.ac.uk/techlink



#### ← Broad Skills Development →

- (In-person courses/events e.g. UIS, PPD, TechLink, etc.)
- (Online courses e.g. LinkedIn Learning, etc.)
- (CPD self-study, or blended online & in-person)

### ↓ <u>Deep Skill</u> ↓ <u>Development</u>

- (In-person courses/ events – e.g. advanced, pre-certification, etc.)
- (Online courses e.g. CompTIA, Pluralsight, professional bodies, etc.)
- (CPD self-study, or blended online & in-person)

T-shaped professional model – adapted from Harvard's IT Academy: https://itacademy.harvard.edu/how-it-works



# Courses, Training, Development – there for us . . .

**IT Training** – courses for staff and students (*most are free*)

https://help.uis.cam.ac.uk/help-support/training

#### **Personal and Professional Development**

www.ppd.admin.cam.ac.uk

Training & Development (Human Resources)

www.hr.admin.cam.ac.uk/hr-staff/information-staff/training-development



# IT Community, Groups & You – current & future?

TechLink Scheme – <u>www.uis.cam.ac.uk/techlink</u>

**CITMG** – College IT Management Group <u>www.citmg.group.cam.ac.uk</u>

**DITG** – Departmental IT Group www.ditg.group.cam.ac.uk

The **University IT Review** recommended greater

- sharing and coordination of IT practices and resources
- professional development and career progression



#### Find out more ...

Get started — IT Help & Support

https://help.uis.cam.ac.uk/get-started

How the University and Colleges work

www.cam.ac.uk/univ/works

- Alt. Glossary

www.queens.cam.ac.uk/life-at-queens/about-the-college/university/the-jargon

Induction — (HR Welcome to Cambridge)

www.induction.admin.cam.ac.uk

UIS: www.uis.cam.ac.uk

TechLink Contact: <a href="mailto:membership@techlink.cam.ac.uk">membership@techlink.cam.ac.uk</a>



# To Boldly Go ... (questions to consider)

- What is needed to be a University IT (HE IT) Professional?
  - skills, knowledge, experience, self-study, behaviours?
  - ... what about special requirements of the collegiate/federated environment?
- When do we connect with HE IT colleagues/associations & professional bodies?
  - Colleagues in other institutions, other universities, ...
  - <u>Jisc</u> & <u>UCISA</u> (UK), <u>EUNIS</u> (EU), <u>EDUCAUSE</u> (US-based), ...
  - ACM, BCS, Computer Society, IEEE, IET, ...
- Which institutions will be ready to allocate at least 10% for CPD?



#### Get involved . . .

The IT community, and the wider University community, needs you to help it develop, which in turn helps us develop personally and professionally . . .

"It takes a community to build a community, and a shared purpose to sustain it."





Post your questions on the chat feed or raise your hand.



# Thank you – hope your work is creative & productive!



